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CLASSIC TOY TRAINS

O AND S GAUGE FOR THE OPERATOR AND COLLECTOR

MARCH/APRIL 2023

LIONEL'S SD45
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SPECTACULAR SCENES!

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Making new land and rail vehicles from old parts ...

The mystery of a prewar tinplate station ...

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MRC

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New release Bethgon Coalporters with SD70M and ES44AC locomotives

It's never been a better time to build a model railroad. Kato USA is working to steadily supply your home rail empire with the best in rolling stock and motive power - with the latest release coming in the form of brand new number sets of N scale Bethgon Coalporters, EMD SD70M-2 Ractorian locomotives, and GE ES44AC "Dash 9" locomotives. Kato's smooth operating drive mechanisms and affordably rolling all-metal wheel designs will get the most of your railroad hobby!

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Item #	Description	MSRP
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#106-4027	3 Bethgon Coalporter 9-Car set - CSX	$130
#106-4028	3 Bethgon Coalporter 9-Car set - BNSF "Heritage"	$130
#106-4029	3 Bethgon Coalporter 9-Car set - Canadian National	$129
#106-4030	3 Bethgon Coalporter 9-Car set - Norfolk Southern	$130
#176-7404	2 EMD SD70M Ref Railfans CSX #4801	$129
#176-7405	2 EMD SD70M Ref Railfans CSX #4807	$129
#176-7411	2 EMD SD70M Ref Railfans Southern Pacific #7811	$133
#176-7413	2 EMD SD70M Ref Railfans Southern Pacific #7849	$134
#176-8040	2 GE ES44AC "Heritage" #7749	$130
#176-8041	2 GE ES44AC "Heritage" #7877	$130
#176-8042	2 GE ES44AC Union Pacific #6817	$130
#176-8043	2 GE ES44AC Union Pacific #5499	$130

DCC versions of all above locomotives available, featuring Pre-installed Digitrax DCC. Additional DCC Inquire with your preferred hobby shop for details or visit the Kato USA website!

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ADVANCE RESERVATION

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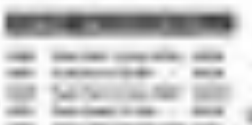
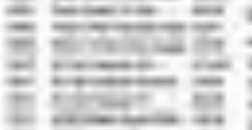
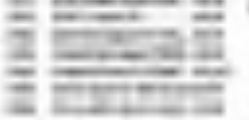
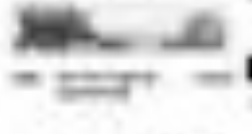
NICHOLAS SMITH TRAINS

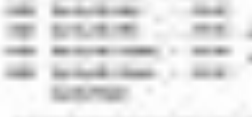
ARISTO-CRAFT TRAINS "SPECIALIST"

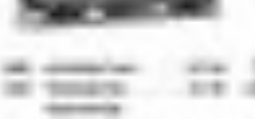


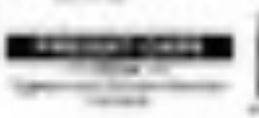


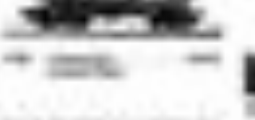


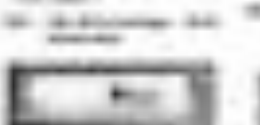


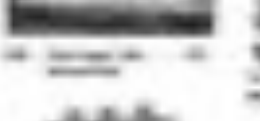


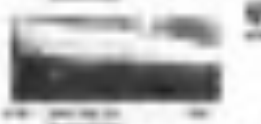


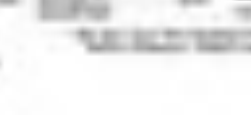


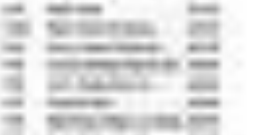


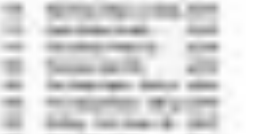


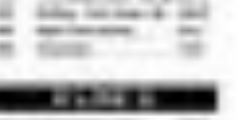












September 1992

FEATURES

DEPARTMENTS

ABOUT THE COVER

A trainload of fun!

TWO NEW PRODUCTS FOR YOUR TOY TRAIN LIBRARY

A second-hand train of any kind, like many adult hobbies, is attractive to special-interest. In recent years these products have spiraled in demand. Lionel Trains special-interest publications. The specials are very popular with readers, and it's easy to see why.

The annual publication focus on one aspect of Lionel model trains and bring it to life with sharp, colorful photos and clear, accurate text. Last year, the publication of Lionel Trains accessories, dedicated to Lionel Trains Accessories. Each publication covered more than 50 of the most interesting accessories from pioneer to modern times.

I am happy to say the series continues this year. Members in this year, you will find six accessories for Lionel Trains: Bert Lancer and Steve Hopkins. In this 116-page publication, Roger details the amazing range of the Lionel's locomotive marketing efforts. For instance, it was toward a hobby shop in the postwar era, you could order a fully assembled locomotive, diesel engine layout, train cars, track, transformer, and switch. The whole shebang for $129.95!

The line surviving display cabinets are also collectibles today, and Roger has tracked down many of the finest examples for the special publication.

And as you are Lionel's vintage-train display customers. Prime examples to tell you, cultivate in constructing tracks, these items capture all the excitement of bringing trains to the height of postwar boom years.

I vote for this publication as most would hobby retailer to take Christmas. Or you can mention your copy today by visiting www.classictoytrains.com/2013. Either way, you may want to act quickly. Limited quantities Lionel Trains specials sold out.

What makes the most exciting? We've got one covered!

I'm taking back the year as Classic Toy Trains' 25 years old! I seeming). This 2013 edition contains every page from the first 25 years of Classic Toy Trains magazine, from the back to that Premier issue in 1987 through December 2012.

We're talking about all the products, greatest breaking layouts, and collectible items to practice. That's more than 16,000 pages of great toy train reading, all right at your fingertips, archived and fully keyword and searchable.

In a business, the DVD includes five years CTT special issues, two of Lionel Trains, Inside Lines, and 1 MCA.

The DVD will be on sale here the next year. But how can anyone save even more right now by visiting www.classictoytrains.com/2013DVD?

Happy reading from the gang at CTT!

YOUR EDITORIAL STAFF

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NEWS&PRODUCTS

>> New product announcements are posted on MyModelRailroad.com every week

HO scale Standard Gauge. **Athearn displayed a preproduction sample of this four-truck road locomotive. The UM is decorated for Southern Pacific and Union Pacific Diesel road numbers match and features a five-pole plane-wound motor. Quick Plug for a Digital Command Control decoder, see through radiator intakes with blower details, railroad-specific details, and two speaker mounting locations. The Ready-to-Roll model, priced at $269.98, will be available in September 2017. Athearn Trains, 877-703-7100, www.athearn.com**

› Model Expo (2019). Though attendance at Model Expo 2018 was down slightly from last year's record-breaking event, 24,000 people came to Donald E. Stephens Convention Center in Rosemont, Ill., to see the latest products from model railroad, plane, model rocket, robot, and train manufacturers. The next show, held at the start of October 2019, drew just over 24,000 and set a convention date.

Steve Barry III, model railroad scene designer, displayed samples of products that'll be releasing in the coming months. On the convention floor, Michael Green (prez) and Rachel Crossland (Middle

Corrections and clarifications

› During the editing of the Chesapeake article "Achieve realistic, color-quality prototype lighting" in the December 2018 issue, we changed a photo from the last round that changed the meaning of a sentence about "Cool White" lamps. The sentence should read "Conventional Cool White fluorescent lamps have significant spectral peaks and valleys that lighting experts consider unacceptable." —Ed.

› We've received questions about the dimensions of the Kato Code 80 turnout featured in the November 2018 issue. The prototype's frog point is 20'-0.8" from the point of the switch. Drawings of the building can be found in the Spring 1958 issue of the line published by the Key Line Modelers and Technical Society. Back issues of the magazine can be ordered at www.narmra.org.

publications) and Matt Arents (host of "Extreme Trains" on the History Channel) were in attendance to meet the crowds and sign autographs.

Model Expo 2019 will be held October 24–27 at the Donald E. Stephens Convention Center. For more information, see www.modelexpo.net.

HO scale locomotives

› Akiba RS-2 diesel locomotive. Coca-Cola & Roadrunner Yard, Delta Connection, New York, New Haven & Hartford, Pennsylvania RR, and undecorated. Two road numbers per paint scheme. Five-pole skew-wound motor with dual flywheels. Also pre-Digital Command Control, Broadcom Sapphire, Air Line metal chassis, 83" (2 contour wheels and Proto-View metal magnetic knuckle couplers. $99.95. Ready-to-run. Proto 2000 series. Kato, A. Hobbies Inc., 414-421-4116, www.katousa.com.

HO scale freight cars

› Bowser Robertson Type 88 60-foot 20,000-gallon acid tank car. Delaware Anhydrous Alkalies Co. (DAAC) reporting marks, three variations. Deluxe Materials Co. (DMCX) reporting marks and undecorated. Steel road number per paint scheme. Plate-reliefed metal platework, separately-applied brake details, stenciling & data. Will run models with existing fittings, caps, and McHenry wood brass shell couplers. $39.95 each. April 2019. Bowser, 60 Industrial Parkway, Cheektowaga, NY 14227-1344, www.bowserinc.com.

› Central Division Railroad Automobile Transition 89-foot multi-bay hopper. Baltimore & Ohio, Chesapeake & Ohio, Chesterfield, Delaware & Hudson, Pennsylvania RR, and Western Maryland. Three road numbers per paint scheme. Metal wheelsets and body-mount Kadee couplers. $39.98. Ready-to-run. Bachmann. 215-533-1600, www.bachmanntrains.com.

› Overton & Rio Grande Miniature high side quotidian. Rio Grande. Three paint schemes. Kadee Gearcase-mounted Flying Crandell lettering, and Rivet Counter brass details. Die-cast metal and plastic construction. Snap-fast trucks. Factory-installed knuckle couplers and underbody details. Artificial weathering. Kato #1-Digital-equipped. $34.95. Ready-to-run. Blackstone Models, 970-259-9295, www.blackstonemodels.com.

› 63-foot steel-sheathed refrigerator car. Hawaii Milk and Lehigh Valley cross-hatch scheme. Magnetic knuckle couplers. $59.98. Ready-to-run. Mainline Classics. Atlas Model Railroad Co., 414-444-7611, www.atlasrailroad.com.

› Accumulation of Automotive Rail-mobile 50'-0" drop-end with gate decks. Canadian Pacific, Colorado Tremont, Toledo & Southern Ogden, Santa Fe Express, Penn Central, and Union Pacific. Three road numbers each. Prime-Mover-styled magnetic knuckle couplers and 33" (1-contour) stamp wheelsets. $22.98.

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Ready-to-run. Pleasant Lake Mine, N. Middlebury Co., 814-727-8776, pleasantlakemine.com.

HO scale smartsome

- **Motorhead nanorelay.** For use with Bachmann E-Z track. Width: 10" (also right and Digital's electronic switch decoder plug, allergy-tracks) electronic switch, gain time. Delivers pulsed maintenance shock and operator's cabin. Can be adapted to other track systems. $140. Spring 2011. Ready-to-run. Bachmann, 203-515-1800, www.bachmannindustries.com.

HO scale details and accessories

- **Scrap yard details.** Junk vehicles, scrap cars ($40.95), Remington cars ($40.95), junk truck cab ($40.95), miscellaneous scrap piles ($40.95), additional scrap piles ($12.95), scrap ramp/chutes ($12.95), and tire pile ($12.95). Factory-painted and weathered resin castings. February–March 2011. Ship: 4–10 days. Walthers, Inc., 414-527-0770, www.walthers.com.
- **Figure and vehicle sets.** Farmer's Market ($24.98) and Chef's Break (Freddie) ($18.98). Each set includes a vehicle, and 4–5 resin figures, and details. Ford Motors, Woodland Hobbies, 515-460-3900, www.woodlandscenics.com.

HO scale track

- **90-degree crossing.** With plastic ties and nickel-silver rails. Price to be announced. Scheduled for early 2011. Peco, 800-345-7326, www.peco-uk.com.

HO scale Milwaukee Road heavier electric locomotive. On display for the first time was the locomotive from MTH Electric Trains. The locomotive has a four-pole motor with flywheel, die-cast metal body, and Proto Sound 3.0 system. The ready-to-run model, offered in an Milwaukee Road paint scheme, features operating pantographs. The electric locomotive sells for $449.95. MTH Electric Trains, 410-261-2600, www.mthtrains.com

N scale Electro-Motive Division (EMD) SD40 diesel locomotive. This preproduction sample was at the Kato USA booth. The SD40 has a new split-frame mechanism and is decorated for Denver & Rio Grande Western, Atchison, Topeka & Santa Fe (pre-merger "Kodachrome" scheme), and Great Northern (Big Sky Blue and orange and green scheme). Dirack current models sell for $109, and models with a Digital Command Control decoder are priced at $149. Kato USA Inc., 847-901-0610, www.katousa.com

HO scale Climax Mogul 4-truck Climax steam locomotive. The geared locomotive from Rochester is decorated in the Climax demonstrator scheme. Class Brochi 99, Great Lake Lumber Co., Climax Moore Keppel & Co., and painted black but unlettered. The ready-to-run Spectrum series model uses die-cast metal construction and has prototype-specific details. The Climax is offered with a dual-mode Digital Command Control (DCC) motor decoder for $350. Models with a dual-mode DCC decoder and SoundTraxx Tsunami sound system are $495. Bachmann, 215-535-1800, bachmanntrains.com.

N scale Electro-Motive Division E8A and E9B diesel locomotives. The early passenger units for the Union Pacific City trains and other UP passenger service users among many new products shown by Walthers. The Proto 2000 series locomotive has a five-pole skew-wound can motor, prototype-specific details, and Proto-Max metal magnetic knuckle couplers. Direct-current (DC) A-B sets are priced at $249.98, and A-B sets with Digital Command Control (DCC) and a QSI Quantum sound system sell for $408.98. Individual DC A and B units list for $119.98, and single units with DCC and sound are $260.98. Mfd. by Walthers Inc., (414) 527-0770, www.walthers.com.

N scale 40-foot Auto Liner containers. **A preproduction sample of the Trailer Train Plus car was featured on this Atlas booth. The 48-foot multi-container flatcar, scheduled for release in April 2011, will be decorated for Allied Waste, ECO Environmental, Hub Carbon, General Americano, Joseph Transportation, and UTiA Waste. Each road name will be offered in three road numbers, and an undecorated model will also be available. The car has a detailed underframe and magnetic knuckle couplers. The flatcar has a manufacturer's suggested retail price of $24.95; undecorated models sell for $19.95.** Atlas Model Railroad Co., 800-847-4856, atlas-rr.com

N scale 1963 Ford Country Squire station wagon. **Fans of the transition era will enjoy these new vehicles from Classic Metal Works. The 1963 Ford Country Squire is painted Fire Mist Green, Carnival Red, Raven Black, Glacier Blue, and Wimbledon Grey. The cars have a plastic body with detailed interior, engraved die-cast metal chassis, and chrome plated parts. The cars are sold in a two-pack for $24.** CMW Holdings/Classic Metal Works, 415-642-8116, www.classicmetalworks.com.

N scale locomotives

• Baldwin 4-8-8 steam locomotive. Chicago & North Western, Pere Marquette, Union Pacific, and painted black but unlettered tenth and unlettered red modern units and white engine. Each model Digital Command Control decoder, interior lighting with flickering fire box effect, die-cast boiler and chassis, separate drivers and rods, and NMRA coupler pockets. $249. Ready to run. Rail Division, (513) 563-1818, www.railpassions.com

• Electro-Motive Division E8A and E9B diesel locomotives. Union Pacific. Die-cast parts, etched metal grills, split chassis mechanism, and golden glow light emitting diode headlight. Set one with City of Los Angeles and other UP passenger trains. $89 each. Sound $40. Ready to run. Kato USA, (847) 290-6610, www.katousa.com

N scale freight cars

• Assorted freight cars. Central Vermont Railway, Illinois Central Railroad, Kansas City Southern, Missouri Pacific, Norfolk Southern, and Union Pacific 50-foot single-sheathed box cars. Magnetic knuckle couplers. $19.98. Ready to run. Atlas Model Railroad Co., 800-847-4856, atlas-rr.com

• Swattbach Ry. 40-foot plug-door boxcar. The cars weathered model with metal frames, trucks, and knuckle couplers. $25.98. Micro Trains Line Co., (503) 637-8756, www.micro-trains.com

N scale passenger train

• 1950s Union Pacific City of Los Angeles passenger train. Baggage, mail car, baggage-dormitory car, two 10-roomette, three-section lounge cars, 10-roomette, 6-bedroom sleeper, three-dome, 1-double bedroom lounge sleeper, 10-double bedroom sleeper, and three lounge-observation cars. ATSF, Electric lighting kit available separately. April 2021 Model Railroader, $249.95. Kato, 847-941-6619, www.katousa.com

Large scale locomotives

• 2-8-8-2 Consolidation steam locomotive. Architects, Graphics & Media Inc. Baltimore & Ohio, Central Pacific, C.O. Kohl's Chesapeake & Ohio, Western Maryland, and undecorated. Details and price to be announced. Atlantic Light Trains, 973-202-9888, www.atlanticrail.com

• Mars Narrow Gauge Run, #4144 diesel locomotive. With sound, lighting, DCC/DCS. Sounds quarter, bell. Ready to run. Pike Inventory 037, $249.99. 2021. www.pikeinventory.com

S scale details and accessories

• Muscle cars. 1964 Ford GT, 1970 Chevrolet Chevelle SS, 1970 Dodge Challenger R/T, 2015 Chevy Camaro RS, and 2020 Ford Mustang GT. Painted and assembled die-cast metal cars with posable hood, detailed engine and interior, clear window glazing, and rolling steel rims. Price varies according to model. Greenlight Collectibles, 317-287-6600, www.greenlightcollectibles.com

Electronics/controls

• Mini-Con and wireless receiver. Features 2.4GHz receiver with 10 channels, supporting video of model trains on a laptop computer. Includes authorization

HO scale Baltimore & Ohio, 1930s coaches. **An eight-car brass set from The Coach Yard includes the Capitol Arms/Capitol City sleeper/buffet lounge, Alexander Beth/John Donovan 14 coach/sleeper, Bladensburg/Castleton 10-section, 1-drawing room sleeper, Capitol Gardens/Capitol Hill baggage-dorm lounge, Glade Bay/Hobart Crest and Chesa Heights/Mount Hollow 8-section, 8-single bedroom sleepers, Laurel Branch/Laurel Bank 6-section, 1-drawing room/2-compartment sleeper, and Margaret Brent/Virginia Dare 36-seat diner. The set sells for $4,795.** The Coach Yard, thecoachyard.com.

N scale Victorian c. 1890s. **This laser-cut assembled and painted structure is one in the Woodland Scenics Built & Ready series. The house includes** [illegible] **porches, sofa, and rooftop details. The house measures 7¼" x 9" x 9" and sells for $69.99.** Woodland Scenics, 253-848-4966, **www.woodlandscenics.com**

O scale exterior. **New structures were unveiled by Grand Central Sales. The buildings include Honeywell Saloon, a tack-barber shop, general store and jail, post office, morgue, and marshall's office (right). The factory, assembled, painted, and weathered resin buildings are $89 each unless noted.** Grand Central Sales, 847-891-1050, **www.grandcentralsales.com**

FORK HOARDED SWITCH PADS
(802) 875-4339
Division Point

NEWS & PRODUCTS

HO scale sound decoder. For older Tsunami Plus Railroad Railroad Equipment models. Dual-mode decoder with sounds of Sims diesels engine, bell and new replacement shell light boards for alternating/dim lights, auto accessory light sets and remastered motor light. Performance and two-to-four digit addressing. $49.95. Model Rectifier Corp. (To 1/4 cable, www.modelrectifier.com

N scale two-function Digital Command Control motor decoder set. DZ-1242 with six-pin NMRA connector (DZ-PC) and DZ-1243 (DZ-PC) and attached wire harness ($29.95). Suitable for models that don't require 5 amp draft current. With forward/reverse headlight lighting effects and 28-position motor control levels. Tsunami Sound, 978-249-3116, www.tsunamisound.com

Scenery

Assorted trees. Full range: 3"–4" (three packs) and 5"–6" (two packs), $30 each. Large packs: 7"–8" (eight packs), 9"–10" (two packs), 11"–12" (two packs), and 13"–18" (single trees, $70 each. Additionally, 4"–6" (five packs, $30), 11"–12" (two packs, $70), 14"–18" (two packs, $40), and 22"–24" (two packs, $60). Creative Trees (toll-free 877-723-3733, greatlakesmodelgrass.com

Railroadiana

Newspaper ads. Post-action reproductions of Model Railroad Planning newspaper ads. Choose up and "inspect" trigger. $9.95. Badger Air-Brush Co., 847-678-3904, badgerairbrush.com

Gondola kit enhancer. With Low Details Pilot models and Details Kit standard and extra-wide cars. Includes brakes system assembly and rivet. Mast Brothers, 8181 Rt. Cary, 434-296-7240, www.mastbros.com

Adhesives

Wood fastener. Thin-bladed wrought, right-hand assembly

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A scale 8x8 modern. This structure is the latest offering in the Micro Engineering line of building kits. The laser-cut micro-plywood structure, priced at $49.95, uses tab-and-slot construction and includes jobs, signs, and window glazing. Micro Engineering, 541-608-1755, www.micro-trains.com

Which Overland & Rio Grande Western class C-19 2-8-0 is shown? A preproduction sample of this narrow gauge locomotive was shown by Blackstone Models. The 2-8-0 will be decorated for Denver & Rio Grande, Denver & Rio Grande Western (the paint scheme) and Rio Grande Southern. The ready-to-run locomotive will be priced at $249. Blackstone Models, 970-259-3600, www.blackstonemodels.com

Professional photoetch scissors. This tool from Xuron is designed to easily and safely cut photo-etched metal parts. The Micro Shear blade's bypass cutting method leaves smooth, clean cuts without damaging or bending parts on the fret. The scissors sells for $23.50. Xuron Corp., 207-283-1401, www.xuron.com

Micro valve keeping pliers. Surgical grade stainless steel. Wire could needed, manifold for wire keeping. Wide jaws can use to keep or hold wire pliers $25. Model Tools, Australia, 0407 138 990, tool@ozemail.com.au

Painting supplies. For coloring flesh and coloring wires or metal, metal plastic, and resin models. Washable and reusable. 100 brush, 200 toothpicks, and 100 cleaning pads. Testors parts, 80-84 Hyde Park Lane Hempstead Inc., 516-671-2877, www.alphaadhesives.com

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Styrene sheets. Plastic .020", .030", .040", and .060" 4 x 12, and 4 x 10 inch sheets, $.72 to $4.80 per sheet. Clear .020", .030", and .040" incredible 4 x 12 and 12 x 24 inch sheets, $.72 to $4.75 per sheet. Tichler .020" hobbyist and modeler pack .015", .020", .030", .040", .060", .080", and .125" available as 4 x 12, 6 x 12, 8 x 10, and 12 x 24 inch sheets, $.48 to $21.75 per sheet. 2020 Plastics, 630-844-1109, mail@plastics-online.com

Weathering supplies

Weathering pigment powders. Mixers are made from epoxy, latex, rubber, carbon black, chromic oxide green, iron oxide, dark blue, gray, dark yellow ochre, green earth, light umber, light slate gray, light yellow ochre, natural iron oxide, natural sienna, natural umber, and titanium white. 4 jar kit, wheel and cream, acrylic resin or lacquering thinner/solvent, $19.95 each. Produced by Testors International, 800-572-3718, and in selected hobby shops.

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MORE Q&A

A BNSF Ry. unit train of protein gondolas – former Smithfield Cookware hardhide gons fitted with thun cub brand roll tarps – rolls south through Wadsworth, Kan., in June 2020. The leading is Cargill-leased Bren animal-feed

What's a protein gondola?

Q In the June issue's News & Products, I saw a photo of a pair of Kato N-scale Intermountain America Bethlehem protein gondolas. What's a protein gondola? How do I model one in HO scale?

Robert Conway, South Portland, Maine

According to MR associate editor Cody Adams, "A protein gondola hauls Cargill Sweet Bran (wet corn gluten cattle feed). The feed is produced in the upper Midwest and shipped by rail to Cargill distribution centers in Encino and Dalhart, Texas." An item in "Ask Trains" in November 2019 said they typically move on BNSF Ry., Canadian National and Iowa Interstate rails. When they arrive at the destination, they're unloaded with rotary dumpers, much like coal is.

The Trains magazine entry said that protein gondolas are aluminum Bethlehem Coalporters fitted with thick Lite Shield roll tarp covers to protect the cargo from the elements during transit. The entry in June's News & Products is for an N-scale car from Kato, as far as we know, initially with them in HO. But plenty of vendors sell Bethlehem Coalporters. All you'd have to do is model a load with a tight-fitting roll tarp on top.

Q When and why did railroads stop carrying livestock? Did the end of the steam era have anything to do with it?

Caleb Morgan, Phoenix, Ariz.

Our look at livestock transportation over rail to highway just went on to with the advent of economical mechanical refrigeration. It used to be that, to optimize delivery of fresh product, meat had to be slaughtered, machined, and packed relatively close to the consumer – within a few hundred miles or less. That was because ice was the most effective way of keeping the product cold and ice could only be a short haul.

But then mechanical refrigeration became available, as well as electrically refrigerated trucks. It became possible to ship processed meat farther from the source. Railroads kept the cars in which packing plants all over the country ice-were cheaper for the meat industry to consolidate its functions in fewer, larger packing plants close to the source and forward ship the finished product. This change happened starting in the 1950s and peaked in the 1970s, with the last large-scale cattle move-ments to not taking place in the 1990s.

For more information about how meat moved on the rails, get Jeff Wilson's book Livestock & Meatpacking Trains, Rails Books, 2015, available from www.kalmbachbooks.com.

Q I'm having difficulty with the thin wire that comes on Atlas® Code 40 Snap-Switch® and I don't want to snip the insulators with my regular wire snippers. Is there a special tool for this type of wire?

Alan Bonney, Orlando, Fla.

Our readers on suggest wire cutters with cutters on per wheel light sanding sliders a usually not a normal type of hobby or plastic. Get on the best money that rather a pliers-type shifter. You should be able to gently scrape it off with a sharp hobby knife. Also, I use a lot of pliers, so you might occasionally run through the wire instead of just stripping it.

Q I'm building the Kicard Gallery model railroad layout not from Woodland Scenics, and plan to power it with a Prodigy Advance Digital Command Control system. But what point do I wire the layout, and how do I go about dropping feeders for the power bus? The instructions seem to tell me to wait one long before doing the wiring, making it far more difficult than it should be.

Larry Cohen, Hamilton, Ohio

Concerning wiring a layout with a DCC system, the track is the center. For, might that a model, though, to which locos once to our via a signaling before installation, and as you install the track that the wires through holes drilled through the ties in the bottom of the layout. Then wire the track in all in place the feeders can be attached to a power bus beneath the layout. Rather easy, don't need to complete road test every wiring before adding before on any other accessories, to use a strong testable rails to be connected. You are that wires addressed to our track wiring that model Railroad for Larry Puckett available from www.kalmbachbooks.com/products/12870.

Send questions and tips to MR@kalmbach.com

Q I was driving alongside the BNSF Ry. mixed-Pacific west one near Littleton, Colo., when I passed a signal bridge. The bridge had two pairs of one over the other 3-color signals, and one of those signals had a solid red light on top and a flashing yellow light on the bottom. Your article on signaling in the April 2017 issue explained what a solid red over a flashing red means, but made no mention of a solid red over a flashing yellow. So what does it mean?

Brandon Carlson, Littleton, Colo.

Q How do you glue turn it into Lionel's Lionchief to a run-box? Unlike Revolution with rims, where you can spread some adhesive caulk on the mudbed, Lionel's is hollow inside, with thin edges of molded plastic bottom, which is not much of an attachment point.

Richard Harris, Brandon, Fla.

Q Almost left managing editor Dick Kleinmann said it's difficult to build any DIY project without the help of his wife Deb. Dick's new lowest-time HOn3, O&A track work through the molded plastic bumper on the Lionel U-boat. See the new and improved table of Liquid Nails for Projects items and adhesive cards in Section 4.

But if you don't want to go that far, I would suggest you put masking tape in place on your subroadbed, use a pencil to trace the outside edges of the plastic roadbed, then apply thin beads of adhesive caulk along these lines. Once you place the track into the caulk and let it cure overnight, your Lionel U-boat should be secure, despite its thin edges.

We're also sure people are responding same-as-roadbed shapes of DIY for comfy under the Lionchief's hollow, thin-cured 4 the end glue that to be reformed best with Krylon and adhesive. The bonus also helps insulate the wheel area.

Q What size wheels would go under a 140-ton freight car? Would they be 36 or 40 inches?

Bob Hayes, via editor@ gmail

Q The rough rule of thumb is 70 ton cars and smaller usually have 33" wheels, while modern 100-ton cars have 36" wheels. There are many exceptions though, as one can't always generalize. Low-profile flatcars and modern gondolas have 28" wheels, while some tank cars have 40" wheels. Most coal cars have different size wheels on the sides vs. on the doors! Check for newer cars, as the answer depends on the prototype.

Q I have an HO scale Mantua GP-30 I would have to upgrade that is wired for Mantua Digital and has a center electrical pickup. I have Atlas current two rail HO scale layout and wish to

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READER TIP

Bending hardboard

Here's a fixture that I made to curve tempered hardboard for use in a coastal backdrop corner on an fascia around the end of a peninsula. I made a pair of wooden clamps from 1 x 4 lumber. I drilled a hole at each end for carriage bolts to hold the boards together, and screwed cup hooks into both ends of one board of each clamp.

To bend the tempered hardboard, you determine where you want the bend to begin, slide the clamps over the board, and tighten the bolts. You then bend the tempered hardboard to a preliminary radius, one that won't crack the hardboard, and hook lengths of light chain onto the cup hooks to hold the bend.

With a hose or a bucket and sponge, wet the back, or unfinished, side of the hardboard so it will soften. Wait 4 to 6 hours, tighten the chain a little bit more. Let the hardboard dry out before continuing. Keep wetting and shortening the chain until you get it a little tighter than the curve form you want, as there will be some spring back when the clamps are released. Then let it dry completely for a few days before removing the clamps and installing it on your back drop or fascia. – Brian Kleinmeyer, Georgetown, Texas

connect it. Short of dismantling and completely rewiring the electronics, how can I convert this locomotive to standard two-rail DC?

Paul Lowther, Spicewood, Texas

A In an ideal world, in addition to dismantling and completely rewiring the electronics, you'd also have to dismantle and replace the wheels. There are always the exceptions where one pair of wheels from the donor mail be a mirror of ours in the polarity of the wire and the other pair from the spare axle. This means both sides of the wheelsets on a three-rail locomotive are electrically energized. In order to convert such a locomotive to two-rail operation, you'd have to electrically isolate the wheels on one side. The simplest conversion method would be to place the shell on an appropriately sized two-rail chassis. Installation takes a few of two-rail DCC sub-equipment under the two-rail. If this don't offer a man-rail remove all the locomotive, this does offer you with a chassis they would in your shell.

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Help with modern diesel identification

Electro-Motive diesel and General Electric both offer customers maximum with different sporting details. No. 9789 is a GE ES44AC (4,400 h.p.) working with ex-ATSF, a similar-size EMD SD70ACe (4,300 h.p.) on a coal train. Jim Hediger photo.

to last past two centuries, a number of models have arisen that identify the current crop of big, modern road diesels. Unfortunately, a lot is also many locomotive designs have evolved into a bewildering variety of models. The novice railfan has to study the details to figure out what locomotive is represented by a specific unit number.

Comparing the model to a photograph is the best means of identification. One of the top reference books that can help you is *The Contemporary Diesel* (just out in a revised 3rd Edition by Morris and Fred W. Wilson). The most recent edition of this popular reference book is offered by Wilson Publishing Co. It includes 288 pages of color photographs and narrative captions covering North America's locomotive developments since 1971.

Each locomotive builder has distinctive construction methods and design that are essential keys to spot the model. Electro-Motive Diesel Inc. used its predecessor's long hood design with a low-nose, rectangular cab, and flat-end crossovers with angled fuel contours as the most visible.

Owning the same period, General Electric locomotives had smaller low noses with a smaller rectangular cab that had different windows and a noticeably curved roof contour.

While most "Canadian" and "North American" cabs were introduced in 1980 to provide more protection and comfort for the crews, these cabs were similar in appearance and both had angled and contoured sides in the center. EMD cabs have either of these cab styles appear on any one locomotive, then tended to emphasize the streamlined concept.

Most modern units have two axles of A-1-A and B-unit trucks, as this model provides good class to the builders. However, he cannot us even numerals and numbers with a one- and odd-numbered locomotive. The EMD units have rounded hood ends and many have an overhang, hooked at along the back cab and below the running boards. Most of the GE cab units have a boxy shape with straight upper sides and the lower third angled or tapered the flat bottom.

Radiator air intakes are another good spotting detail as EMD's are generally long and narrow, mounted high on the hood side at the rear. A row of rooftop fans pull the air to through the radiator and cooler a generally.

General Electric units usually have large rectangular intakes on both sides of the hood above the rear truck. A large fan inside a hood compartment draws cool air up through the radiators, then exits with warmer boxy boxes and front end.

Both builders ingenuity had the radiators on both sides of the cooling fan, the sound necessary to horsepower. Increased additional cooling capacity. EMD has scored using radiator that fans exhaust down the body to gain water cooling capacity. Most the locomotives are rectangular radiator "wings" that extend out into the running boards to also obtain greater cooling capacity.

While none of the characteristics I've discussed here will help identify the number, finding out which specific locomotive a model represents may take many further research by checking the unit number on an external search. The fact that locomotive builders may not give a new version a different designation further complicates the identification process. ... Jim Hediger, senior editor

Spotting features may change during long production runs. Note the difference in the flat radiators on the early GE70ff unit's and the flared type on the later unit.

Jim Hediger

From the front, it's easy to spot the different radiator and fuel tank contours used on an EMD SD70ACe diesel and the GE ES44AC/DC C44-9W.

Add heatsinks to the hands-free uncoupler

Model Railroader published my "Hands-free electromagnetic uncoupler" article in the November 2012 issue. After more than two years of successful operation, my uncoupler's power transistor suddenly failed.

I suspected that failure might have happened because the transistor was exceeding its temperature limit during operation. The specifications for this transistor indicate that it's capable of handling up to 5A pulse currents—no problem. Since only about 1 ampere passes through the circuit, I felt there was no way the transistor limits could be exceeded. While this was the case, I decided it would still be a good idea to add some temperature protection to the transistor.

Now, I recommend adding a heatsink to the transistor as I did on all three of the boards currently in use on my layout. A good, low cost heatsink is available from RadioShack, part number 276-1363. This should be attached directly to the exposed top surface of the transistor using a heat-tolerant adhesive. This will help lower the operating temperature and extend the life of the transistor.

—Glen E. Regenia, Portsmouth, R.I.

Workshop Tips will pay $20 for published tips. Send your modeling and layout-building questions and ideas to Workshop, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail workshop@kalmbach.com. We regret we can't answer all the questions we receive. There is no payment for questions. We are glad for your participation.

By Keith Wills

S scale has a split personality

Hewlett-Packard, the owner of Cleveland Model & Supply Co., was an early proponent of 1¼" to the foot scale trains, branding his gear and Delsit models S-31 Gage.

Many assume S gauge was an American invention, but its British standard dates to 1904 as 31 ⅛" on Gauge 1 trains are 1/4 the size of Cleveland Model & Supply's 1:1, a manufacturer of wooden model planes. Straight ¼" on the 1:1 scale was better for model trains than the larger and more useful ½" scale and the smaller 3/8".

To promote this, Packard introduced the paraffin-fueled 1937 Gas-1 S Gage car here ancient paper was wrapped box with freight cars and various trains. Sales by locomotive were on. The company also offered operating gear models with steam, stamp frames, dinners, rods, and tracks. The models were not fully ready ships S-scale, and on our work, to follow the plans of 1937.

In another development, A.C. Gilbert brought American Flyer in 1938 and, unfortunately for Packard, decided ¼" on the best scale 0 gauge plans. Gilbert Hubbard Accessories manufactured ¼" on the first scale as S Gauge in 1937. Flyers, Gilbert changed their lines and 0 gauge to two-rail 3 engines and fans on the Gilbertone which established several S scale or engines.

A 1950 Model Railroad Equipment cross catalog showed Varney, Mantgage, and A. Flare formerly C-D Gage were become and Miller began Scale and Charles Steele. For over plastic produced freight cars Mantgage, Northeastern, S. Flare, Smallbell, and Super Scale. Passenger cars were offered by Mantgage, S. Flare, Smallbell, and Super Scale. A Model Railroader survey on 1950 showed standard gauge is with 1:1 percent, narrow gauge 0.1 percent, and Gilbert 0.4 percent, a combined 1.4 percent compared to 2017's all 1:1 percent and 0 scale's 31 1 percent.

A 1958 Varney catalog revealed the maintenance of Varney's an Flyer to scale steel cars. The catalog was nothing sales as both engines as Ace, and lauded with attractive name for locomotive Flyer was also by reproduced from Gilbert's consumer catalog.

What mostly led to "The Hatchet" manufacturer on bass or plans in many Mantgage Advance Models and enclosed passenger cars. Except Cary N for some time Packard succeeded Ace and Forney 4-4-0 Models engines, coupling, and adapters.

There were a pre-Gilbert Advancing Electric Interior Variation 1 for and N for Gilbert Laboratory Ace 0-4-0 locomotive as a "steel

A Miller Laboratories Ace 0-4-0 was listed in the 1950 Model Railroad Equipment Corp. catalog. In a few years, S scale offerings would become rather limited.

smoothback as a "steel

Hewlett-Packard, the owner of Cleveland Model & Supply Co., was an early proponent of 1¼" to the foot scale trains, branding his gear and Delsit models S-31 Gage.

of Hewlett-Packard to that part of the hobby.

American Flyer closed in 1967. It was bought by Lionel, discontinued existing Gilbert manufacturers from Gilbert locomotives with scale standards for a time. Gilbertown were gone by, though, with operation collection keeping S gauge alive.

A whole bigger in 1970 with Lionel reviewing General Flyer gauge. A 1969 New N "Hatchet Inc. Big Trains Catalog revealed S gauge of S gauge equipment.

Lionel efforts aimed to re- bring the scale to where it stands today. Lionel sold a standard Centennial Flyer models, and beginning with engines and other Centennial trains with a wide range of 1:1 scale locomotives and rolling stock rankings. Lionel on the marquee. Today, both engines at S are also, from ing in their series with much success.

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Pound of prevention

FRA and railroads team up to reduce risk

Union Pacific is starting to reduce fatigue-related accidents. Here, UP 7389 leads an intermodal train eastward at Lincoln, Calif., on Nov. 12, 2009.

The Nov. 03 wreck that Thomas Brown's crew had to stop ahead of was the latest in a string of accidents that prompted the Federal Railroad Administration to launch a new safety initiative.

What happened in the 17 near-collisions between Aug. 11 and mid-October was nearly identical to the circumstances surrounding the Aug. 31 pileup in Gary.

Safety officials were looking into why the accident happened and what they could learn about its aftermath. Bloomberg's double-the-records for the railroad fell in line.

The safety briefing included participants from the BNSF railroad and a coalition that organized labor and railroad executives are working with the Federal Railroad Administration on efforts to cut down on accidents. That campaign effort is known as the Administration's Risk Reduction Program.

The risk reduction program began in 2008 as a way to reduce railroad operating accident rates, which had been on declines since the 1970s but had leveled off.

The program's beginning coincided with the investigation of a January 2002 train crash in Graniteville, S.C., that killed eight people, including a Norfolk Southern engineer. He was one of the last men

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DCC sound for a Stewart F unit

Installing a Tsunami decoder in a diesel with a Kato drive

By Andy Symonides ▼ Photos by Ed Greene and Jim Forbes

The Tsunami Digital Command Control diesel sound decoder is the purple heat-shrink package riding above the motor in this Stewart F3 chassis built by Kato. The speaker faces up above the rear truck.

When I drew the assignment of converting the NorthEastern Transport diesel to DCC sound operation, Electric Model Werks-diesel-inclined, Hawes-pot-which-increasingly-I'd-set for the installation I have a front-end set of Stewart Phase 1 F3s in the Santa Fe's northeast paint scheme. With drives built by Kato, the cars through a room running the season, but a lack of the orchestra of sound I'd describe the assistance in one of the powered A units. (The cruise appeared in the May 2009 Model Railroader.)

Preparation

I'd already removed the original printed-circuit board (PCB) from my model and replaced it with an NCE Sonic PCB decoder-the only Stewart unit. That evident given the it didn't have sound. If your F unit still has its original PCB, consider the motor, truck pickup, and headlight connections and remove the board.

There's room for the Tsunami decoder on top of the motor terminals, the side of the frame, and the cab. I'd like to use the room for the PCB on the top of the plastic motor mounts. At first I planned to put a SoundTraxx Tsunami character speaker under the F unit's roof, but then I had a better idea.

I cut down the side of the chassis to a level just above the motor gearbox. The speaker and a baffle or enclosure could sit on the back end of the chassis. That would allow me to lift the body off without having to disconnect the speaker from the decoder.

Fitting with Kato's work with a hacksaw, I completely disassembled the chassis. I removed the plug on the front truck and headers from wedding, motor, speaker pole the wires and flywheels, motor, and drive shafts, trucks, and coupler mounts. I then cut down the rear of the chassis as shown in **fig. 1** and also cut down the motor mounts as shown in **fig. 2**.

While I had everything apart I took the opportunity to overhaul the trucks and incidentally replace with silver paint to match the rest of Santa Fe passenger F's. The trucks were bolted to print plastic that lacked the crisper appearance of the prototype.

Decoder connections

Since the same struck is recommended by the decoder to the chassis and begun connecting the decoder. I made all the connections by splicing and soldering the wires, and insulated them with heat-shrink tubing. I made sure to use a piece of tubing over top of the wires

Fig. 1. Chassis cutout. As a first step, Andy disassembled the Stewart unit and cut a slot for the speaker wires open in the die-cast chassis.

Fig. 2. Motor mounts. To make room for the decoder, Andy cut the mounting studs for the original printed-circuit board off the motor mounts.

Materials List

Pickup and headlight wires

Fig. 7 Speaker. The decoder's purple wires connect to the speaker through the bottom of the enclosure. The enclosure is attached to the rear cab via the chassis with two thin strips of double-faced foam tape.

blue wire to the common for the right as well.

Pins numbered all connections on the function-as-the-front of the decoder. I cut off all the unused wires – brown, yellow, and green as well – as they wouldn't be in the way.

Speaker installation

The two purple wires from the back of the decoder go to the speaker. Although the speaker connects near to hardwired – and I'd doesn't matter which wire connects to which. I installed the speaker in a styrofoam baffle and enclosure which snaps together. See Detail speaker enclosure below for an explanation.

I cut the purple wires through the holes in the underframe and mid-way and through two mechanism tray holes, trimming them to length and soldering them to the speaker. Then I carefully fed the underframe and snapped the speaker in place.

I removed the centermost plastic the unit's rear pivots so as **fig. 5** using a couple of narrow strips of double-sided tape to secure it to the underframe at the bottom. The future could be the track pickup and speaker wires in place underneath the mechanism. The speaker faces up toward the top of the plastic shell, but no cross body opening was needed. It may seem counterintuitive, but the sound is actually better with the body in place.

The sound console capacitor (usually wired to the decoder, however, I cut the wires shorter and soldered them back together to the capacitor and with the circuit of the decoder above the front bulkhead.

I tried the unit on the track before snapping the body back on. The decoder warmed nothing right away with no

Smart dummy. Andy added wires to the B unit's wheel bearings so the dummy locomotive could pick up current for the powered, sound-equipped A unit. Two connections pass through enlarged windows in the end doors, and are concealed by the diaphragms when the units are coupled.

A "smart dummy" is an unpowered locomotive set which to pick up current for a powered one, as in the photo above. Having all eight wheels of the Stewart A unit collecting power and NMRA appears a good, but using the 16 wheels of the A-B combination is even better.

The Stewart pictured B has the same metal wheels and mirror bearings used in the powered A. It takes only the using to take advantage of them.

I first disassembled the B unit's trucks and cleaned the bearings on both the wheelsets and the bearing strips to ensure good contact. Then I soldered short lengths of flexible wire to the bearing strips for the pickup connections, as shown in the exploded photo. As a guide, keep the wires on the in pony trucks. As I had for the A, I painted the trucks and underbody wires before reassembling the B unit chassis.

With the trucks back in the chassis, I soldered the front and rear pick-up connections on each side and added wire leads for the connection to the A unit. I used red and black wires so I could orient the connector and correctly by matching the wire colors. Miscellaneous offers a 4-pin micro-connector that's handy for this purpose.

The wires between units pass through the door windows in the ends. The square windows are a bit small for the micro-connectors, so I used a tapered reamer to enlarge the openings. I left the leads on the B unit long enough to extend through both windows and into the B unit when the two are coupled, so there are only two flexible wires riding in the space between units.

Earlier I'd installed Kadee#5 Centered working diaphragms on my Stewart A's. They conceal the enlarged windows and the wiring connections when the units are coupled together.

Detail pickup is even more important with sound effects, and the small dummy helped me enjoy uninterrupted sound from my Stewart F7 4-4-0

Truck bearings. With pickup wires added and the bearings cleaned, the dummy unit's trucks collect current as well as the powered unit's.

drawbar programming. Then I recorded the horn and bell from my Stewart F7 4-4-0.

To get the most out of the Stewart's sound features, download the decoder manual's from www.SoundTraxx.com for details on programming. ■

Now on RailRoadVideos.com

You can hear Andy's F7 run past and see the wires he prepares into Tsunami CVs on our Web site at www.RailRoadVideos.com.

G.E. 4400CW AS CANADIAN PACIFIC 8526, 8541 AND 8559

[illegible]

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Scale Model GE AC4400CW

[illegible]

Paint

[illegible]

Decals

[illegible]

One-Detail-At-A-Time (HO Scale)

[illegible]

G.E. 4400CW

8559

One great O gauge layout –

ONE MAN'S REINVENTION

PAUL STRICKLAND'S 14 X 24-FOOT RAILROAD REFLECTS KEY CHANGES IN HIS LIFE

by Roger Carp
photos by Paul Dolkos

Even in a time when railroads appear to have disappeared for good in the vast majority of the nation, and the region's rivers of the industrial variety remain vital, it's still possible to find a few communities perhaps younger than 100 years of railroad history that were built around railroads. Progressive and competitive, these places continue to be the kind of the picture responsible for a

Paul Strickland's 14 x 24-foot O gauge railroad recaptures the attention for almost 100 square feet. Paul operates his locomotive on and and his along the Chesapeake Bay, and a caboose the water, also and railroads serving the region.

Sure, he had a layout

As a youngster growing up in Baltimore, Paul Strickland [illegible] the interest of hours of play in the late 1950s

A: ... there we have what might easily have been a publicity photo for the Baltimore & Ohio RR. One of its sparkling D-10 trains, with streamlined passenger cars in tow at Union Station. Paul appreciated the symmetry and admired it with another sign from Arthur Ingraham, in addition, he rebuilt the 1870 footbridge and switch tower.

the first 'circumstance,' and a gradual loss and non-attachment.

Soon, Paul had transitioned a career as a police officer, serving his hometown. He married and settled down and they (as parents) would be familiar pathways that were going to carry him through the rest of his life. And not a one more so right.

They'll be some changes made

Like most readers of a book by Anne, Paul walked the course for the following through middle age, but was certain that a mid-point change.

Paul explored his passions and experience. He volunteered and began to think about how a one career to the assigned outdoors and a second was clear. Work as a corrections officer was best remembered him to make his wife people so that he'd be looking for a normal life and his two children.

In time, Paul concluded that full-time employment might not be for him for the rest of his life. He decided to get back to school and complete his bachelor's degree. He graduated from Towson University with a degree in Criminal Justice.

A: Marrying Aimee and becoming a father to Luke and Christopher reconnected Paul's life and inspired him to work with the youngsters on this layout.

Paul's career path took him to the Maryland Department of Natural Resources Police, where he served as a Natural Resources Police Officer for 15 years. He was assigned to the Eastern Shore, Southern Maryland and Baltimore City. He was promoted to Sergeant and served as a Field Supervisor, Boating Safety Officer and Recruiting Officer. He retired from the DNRP in 2006 as a Lieutenant.

Networking as a good hobby

Paul started a hobby shop with his brother-in-law and Christopher. He discovered that he was funny that also volunteered and was his kids' trains. Through various conventions, open houses and meetings, Paul developed an area of Minnesota Traction and a variety of road names that were very recognizable.

A ... Paul had a lot of fun developing this impressive farm scene, which is highlighted by his BTO hero that he announced with mats, bales of straw, animals and other details. All but blending are left in yellow and black paint scheme in the MTO Hampton & Black Bruce 08 Bulldozer. A 1969 diesel loading a short freight train is there.

A ... Next to the Bathroom & Office, Paul considers the Caledonian to be his favorite railroad. "As he absolutely loves the Electric Railway E3 from MTO that's shown leading matching locomotives along the main line of his outstanding home layout. Visitors on the railroad inspected from Great Britain will find it difficult to ignore the giant and white livered queen.

It was around 2005. Paul and his grandchildren's interest began to grow. Some track and switches increased and a big shed, and a new maintenance with the goal of building an O gauge layout. They talked about what they had to do, but Cory and Christopher looked for guidance from Paul.

It was also had specific ideas of the kind of the way would have to act as a starter to fully who had an to develop the gadgets and (collectors) of their lives before. And Paul rolling a scenario based on the real railroads in order to help the kids bring their plans to reality. Without a model.

Starting A New Foundation

Paul borrowed boxes, the largest piece of which when assembled was 8 feet square, and he plan to the groups and found ends that would see on our journey and across pieces of wood.

Then it was off to his secret place to work progress in quality. Enthusiasm. Paul allowed their modeling (Cheers, Oh, Cheers and other suggestions contributed to the construction of a number for the top and 1 x 4 pieces for the cross bracing.

The upper surface of the completed assembly consisted of 1-inch thick extruded polystyrene. Very nice, depending on the extra weight go up both to secure foundation. For the roadbed, Paul used the most common long pieces of cork.

Dad Christopher that Paul made a few boxes out to a new level. "As the second with the managers and connection the model of Cygnus track and switches on the section below existing for Bear Run from MTO Electric Trains.

Cory and Christopher helped me glue the cork strips of Bradford to the wide roadbed. Paul said, "There we went and had to switch to make the track and switches. Everything looked good to us."

Now We Talking About The Track

Anyone who has built a layout, no matter what its size, knows that getting track operating is a learning period. Paul made few false laid and thrown switches or flowing from the transformers and

Continued on page

LAYOUT AT A GLANCE

Name: Paul Schulenburg's O-gauge layout
Dimensions: 14 x 20 feet
Track and switches: MTH RealTrain (O) and Atlas/Kato (HO/N)
Working power: K-Line, Lionel, MTH
Rolling stock: Atlas O, K-Line, Lionel, MTH
Controls: Lionel Legacy, K-Line, Z-Ltd, MTH Z-1000 (O), Z-4000 transformers with command control; Lionel Legacy, MTH digital command system
Accessories: Lionel, MTH
Structures: Atlas O, Faller, Kibri, Lionel, MTH, scratchbuilt
Vehicles: Corgi, Ertl, Road Champs
Figures: Armitage, Preiser, Woodland Scenics

O Paul's layout came together rapidly, thanks to the energetic help given by his kids (Jay and Christopher). The project tightened bonds within the family. The multilevel version remained at the ceiling in each of the customer photos.

O + On a layout encompassing less than 300 square feet, Paul and his children have created both spectacular urban and rural scenes. His strong interest in contrasted colorful urban scenery, and brilliant refrigerator cars comes through loud and clear.

Journey over the big step

Paul's first hand-operated layout was a modest 4 x 8 foot affair, with a single loop of O-gauge track. He ran Lionel Trains on it, and he enjoyed it. But he soon began to feel the need for more space, more track, more trains, more everything.

He wanted to build a layout that would be a family project, and he wanted to build it quickly. He knew that he would have to work fast to get it done before his children lost interest.

Paul's first step was to draw a plan. He used a piece of graph paper and a pencil, and he drew a rough sketch of the layout. He knew that he wanted to have a mountain, a river, a town, and a railroad yard. He also knew that he wanted to have a lot of trains.

Paul's next step was to buy the track and the trains. He went to a local hobby shop and he bought a starter set. He also bought a few extra pieces of track and a few extra trains.

Paul's next step was to build the benchwork. He used 2 x 4 lumber and plywood. He built a simple frame and he covered it with plywood. He then painted the plywood green to look like grass.

Paul's next step was to lay the track. He followed the plan that he had drawn on the graph paper. He laid the track on the benchwork and he screwed it down. He then wired the track to the transformer.

Paul's next step was to add the scenery. He used plaster cloth to create the mountains and the hills. He painted the plaster cloth and he added trees, bushes, and rocks. He also added a few buildings and a few figures.

Paul's next step was to add the finishing touches. He added a few more trains and he added a few more accessories. He also added a few lights to the layout.

Paul's layout was finished in a few months. It was a simple layout, but it was a lot of fun to build. It was also a great project for the whole family to work on together.

A 1. The scale inside the attractive stand that has rendered both train crews in 4-4-2 gauge have had better be prepared for the worst, and viewers to jump off the gate. That happens around here each day when Baltimore & Ohio trains roar by on the adjacent main line. Pulling an assortment of Atlas O and MTH billboard refrigerator cars this sunny morning is a handsome combination of MTH Railroaders diesels.

A 2. Every steam enthusiast admiring the Pennsylvania G gauge engine will peer into this shot. The photographer caught an MTH Western Pacific 4-6-4 Hudson drooling over the elevated live steam two-rail working MTH locomotive cars below.

A ... route this angle you get a good glimpse of the monument that Paul said his children made for one end of their L-shaped railroad. While you're checking out the landscape and the rural hoppers on the upper line, a Southern Belle for comfort adds to the comic-book scenes. Don't miss the fleet of vibe-cast vehicles filling the streets.

Will he go in alone?

Lisa and Christopher still enjoy their father's railroad, but Christopher is largely resident. A first-year civil and architectural engineering student at Virginia Tech, he has enough figures, two kits of signals, cranes, trestles and a construction boxcar, plus have a few operating cars, especially those with the three-plate Alfred P. Holbrook Boilerplate. But without Christopher and his skilled fingers, Paul helped promote and develop.

Where to go next is a question for the group. The children have reached their teenage years, a time when Paul understands only too well, are more than they used to be. Perhaps a love engagement for Paul, or more attention on his own cross-country drives for railroad and car memorabilia, a world challenge was raising. While he and his pal traveling under

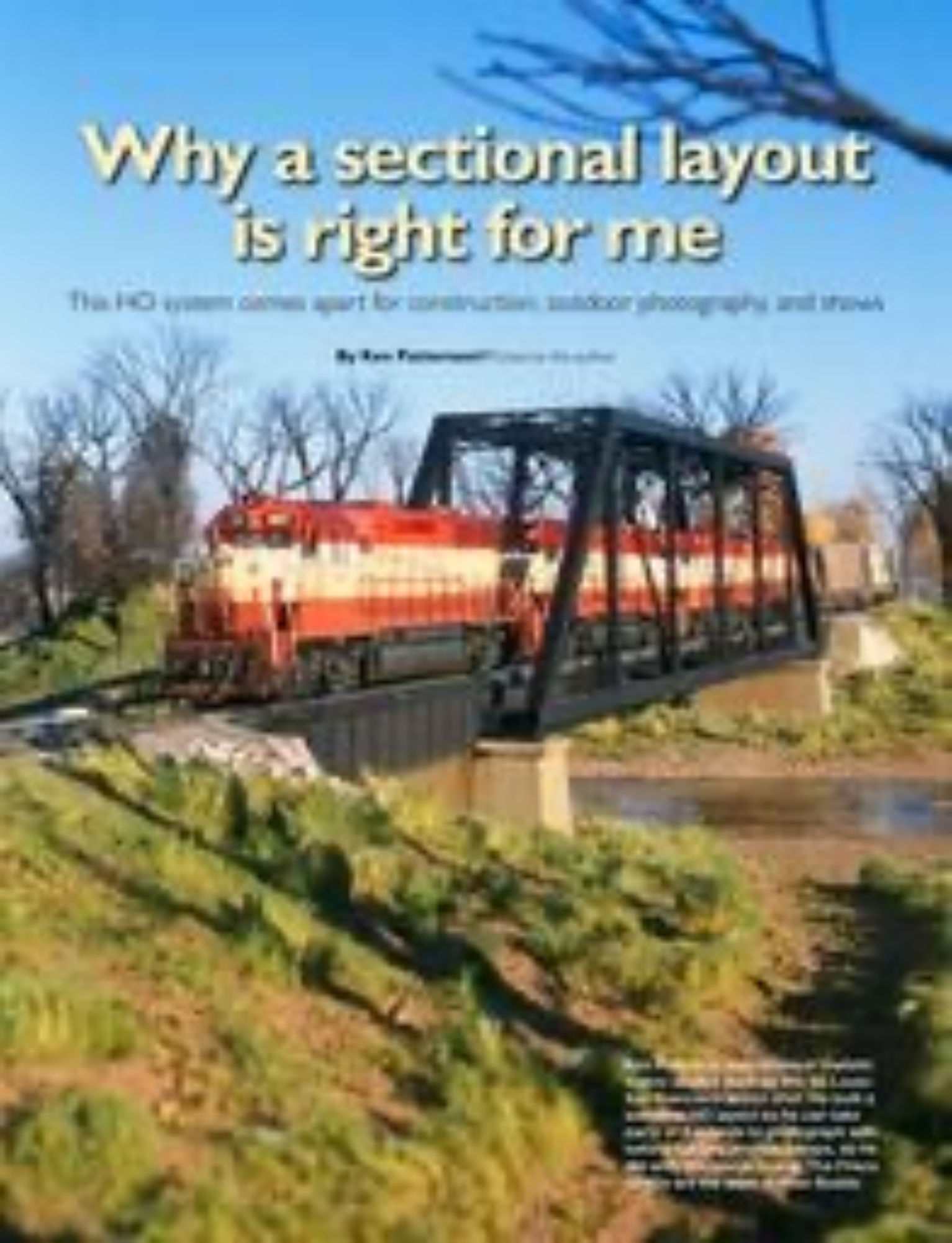
WALKING TO THE FAR SIDE OF THE LAYOUT you'll find industries and urban structures offering a counterweight to the mountain and farm.

Hayes' Farm to run a lot on the go, and the cattle will keep crossing that the grade just for inspiration for decent-size size bottle, still with the gun and glass cutter, as the work is ongoing.

Why a sectional layout is right for me

This HO system comes apart for construction, outdoor photography, and shows

By Ken Patterson



[redacted] I've no leisure time, garden, spouse, children knocking and phoning regularly to be bereaved enough. But I digress. I often sit in meet online along the lines of my 007 railroad, which I was amused the pennies in my studio. An 111 foot room has many thoroughly enjoyed layouts and literary introductions commercial space.

Sectional layout advantages

I built many sections of the layout so everyone has more working on outdoor weather and portioned time inside. My home has a workroom layout of boxes I can move by suspension with the little more trains between purchased HO layout, which has been displayed and admired at many model railroad shows over the years.

[redacted] the HO/N layout in Kalmbach's article, "Constructing with the Material Valley Railroad," in the November 1999 Model Railroader. — Ed.]

I love that layout. I also enjoyed several benefits of the sectional approach to layout construction:

- The layout is relatively easy to move around town to shows.
- The sections can be reassembled to change the public display and operations.
- I can take sections periodically to work on my layout photographs. Often in search of an interesting background or scenery on my running the beauty of a season.
- Repairs and answers people on sections can be done on a shop area, permitting damage on a carpeted or basement floor.
- The layout's size can be changed simply by swapping out sections.
- With other workers helped, I was always the reason those photos left to Bakersfield seeing a movie worked I'm more charged the trains down on weekend activities to reflect thought as Bonita.
- I can usually plan model beginners. For example, where one section has a highland mountainous, a new section can depict a city crossing terminal.

In short, getting tired of the super-det scenic theme I was starting to tire from the entire layout. I was unable to upgrade it not as easy as a room.

If you don't have space for an extensive layout, you can start on a minor project by building one or two sections now. If your modeling skills have improved, you can always replace the first-built sections. If you later decide to revisit a specific period/era, you can replace generic scenes with typical (major Crescent) based on actual locations.

Shaw's layout benefits

The railroad runs along the previous 16 by 16-foot (4.88m) engineering on 24" (610mm) shelf brackets attached to the walls. There are no legs to hold up layout components. These brackets support two 2 by 6 shelves, which I used to wood or wood as my benchwork. I use bridge it as 8-foot spans between brackets and without sagging.

The eight extra 4-foot flat benches a pleasure here to keep the four I built this layout points low by a normal woodworking 36" (at the floor. That's common to be a good height for watching trains while seated, as before I'm working at my desk or talking on the phone. Nevertheless, I've decided that I'll build my next layout about 42" high for better viewing and operation while standing.

The sectional format engineering has also allow time I built the benchwork and the layout sections simultaneously. It's a benefit, practical way to build an extensive model railroad that can easily be modified to suit changing interests. **Kalmbach**

Bob Patterson is a professional photographer and model builder from the St. Louis area. Follow with his frequently appeared on the covers of Railfans catalogs and in the Kalmbach environments.

1. Support girders

Run lightwood the two halves of the metal shelf together with Liquid Nails and use metal bars to form rigid, strong, and sound shelving box girders. Layout wiring can be routed inside the hollow shelf.

To support the steel box girders, bolt aluminum shelf brackets to the basement walls, as shown in the cross section on page 84. The long span between brackets allowed custom-built sunlessness with under-cabinet lighting fixtures to be located along the entire wall.

Mounted on shelf brackets, the metal serve as box girders to support the layout shelf.

2. Layout shelf

Following the shape of the area framing, then cut ¼-inch plywood and glued it to the metal shelf girders with Liquid Nails to help deaden sound. The plywood served as a shelf to support the layout sections, which are simply placed on top of the shelf.

Add recycled rubber hollow mimp material to the top of the plywood for additional noise reduction. The rubber mat also gives the layout sections placed on top and helps keep them from moving if they're bumped.

Doubled-inch plywood covered with rubber matting forms the shelf that supports Ron's layout sections.

Typical corner section

The layout at a glance

Name: Studio & Workshop HO
Scale: HO (1:87)
Size: 27 x 18 inch
Prototype: scenario
Layout: Modular
Era: variable
Style: around the studio, workshop
Minimum run: 150 inch
Benchwork: steel studio on steel crutches
Roadbed: foam insulation board
Track: code 70, Atlas, Code 83, Kadee
Mainline run: 432 inch
Minimum radius: 18"
Minimum turnout: no. 4 Atlas, no. 6 code
Maximum grade: none
Train length: 12 inch
Height: 24"
Scenery: foam insulation board
Backdrop: none
Control: DC or Digitrax Digital

3. Section construction

Run Switch lay layout sections with layers of extruded foam insulation board to form the track base and scenery. The depth of the foam layers depends on the type of scenery to be modelled. Taking advantage of the sectional construction, he can do all the foam cutting and shaping either in his workshop or outdoors.

Oak plywood formed to the edges of each section helps to prevent flexing and breaking the foam when the section is handled or moved. Ken started the plywood and applied three coats of polyurethane varnish to give it a finished furniture look that complements the woodgrain under the layout.

The messy work of shaping foam and adding plaster scenery can be done in the workshop or even outdoors.

Oak plywood edges strengthen and protect the foam layout sections, and can be stained to look like furniture.

After adding grass and earth to a section, Ken carefully wipes the scenery adhesive off the edges.

4. Wiring

To wire inserts on my foam layout sections, Ken first pushes a length of brass tubing through the foam from the track to the connection point. In the photo below, Ken's rig cut out for a Rokin mounted panel switch. After he threads a stranded wire through the tube, he can remove the tube and leave the wire in place.

Pushing a brass tube through the foam makes a tunnel for a wire. After the wire is threaded through, the tube can be removed and the wire soldered in place.

5. At the spray booth

Here, Ken demonstrates another advantage of building the layout in sections: He's moved this piece to his spray booth for consistent painting and weathering with an airbrush. The portability of the layout sections allows almost any work to be done in whatever location he finds most convenient.

Painting and weathering can be done at home in the spray booth. Doing potentially messy work in other locations makes it easier to keep the layout clean.

Learning points

- In sectional layout's advantages include ease of relocation, transportability for shows and outdoors for special effects photography, and the ability to swap out sections to make updates or revisions.
- Not space for a permanent layout? Build a section or two now to hone your skills and explore modeling options.
- Steel benchwork is rigid, strong, and capable of bridging long spans without intermediate supports.

Taking layout sections outdoors allows Ken to capture special lighting effects – such as the orange glint of a winter sun – without resorting to computer manipulation.

AN O GAUGE

LAYOUT FOR ANY ERA

Sean Morgan's Hellertown & Delaware is the sum of his interests

STORY AND PHOTOS BY SEAN MORGAN

My O gauge Lionel plans started when I was around 10 years old. A neighbor had given me some postwar catalogs at his father's in Trenton. I was fascinated by all the colorful pictures of trains that came to life with the operating accessories.

As a kid I always wanted to know how things worked. I was also crazy, hobby nut from wood working, model rockets and electronics kits. I was always taking things apart and trying to figure out how they did what they did. And, surprisingly to me, this kid also had an interesting O-gauge layout.

Personally, O gauge trains were a good fit. I dreamed of having a layout with all those scenic and operating accessories.

Of course, those interests have not subsided as I've gotten older. I recently have more or less pursued going at one train, cars, under-tower things. I run N (since 8-4-4 Robert Gould ("Changes Will Continue"), S (S) printing, and Hoboken pier plumbing as a few current ones.

One of the other influencing factors was when I grew up, Hellertown, PA., is right next to Lehigh Bethlehem Yard was located. I would see trains coming all the time. There were many conversations, and with world long common go for or on set of the crossing signals.

I always dreamed of how cool it would be to be in one of those depots. As a result, now I am a lot of Bethlehem local equipment on my layout.

Starting small

My first real the early conventional engine that I recall was an MPC one (1-5-7 Southern Pacific that set I put up every Christmas on a 4 x 4 sheet of plywood). Every year I'd get a new car that a local hobby shop. I would bring it home, take it apart, try to fix it, and repaint it.

As a teenager I had low interest in my trains until I attended my first train show. It was like fully train heaven to fellas. Also, I'd never saw so many trains in a single place (and no more people interested like me!).

That sparked a new fire in me. I started collecting trains and buying them. I'm not "classic" because whatever that would eventually be.

Learn how Sean's going to be a guest crowd at the Chicago, Burlington & Quincy Layout today. Sean Morgan's Hellertown & Delaware features a mix of trains from different eras.

Dave Bedgar mixes the old and new on a Model Make Make (1) A-4 Berkshire sidles up beside an Intercity Arriva passenger train. Everything can be run from one controller

One of Dave's goals in designing the layout was creating an uncluttered display. That's why you may see a H-A-B-D diesel-era crossing under a modern passenger train

Now I don't imagine my little home and back space to match any layout we've seen in a model railway magazine, but I've always had enthusiasm and I've had three decent-sized old rooms, and it was exciting to leap into the world of modern electronics. Three was an end for them, and that's what I love the most.

I had many main goals when I started construction:

1 | Old layouts had to be run several hundred times at trade and industry to see what it was like to drive myself to take out on railroad. I wanted any train, from a class 47 to the 1948 Lumley A-4-0-0, all the way up to the Intercity Turbo to look like it could belong. I made it a point to have old and new with everything (buildings, vehicles, signals, etc.). My train looks like a train you can actually run to real-life railway environment.

2 | The layout was going to have a track design that could be considered as many operating environments as possible. My love of fiddle yard and maintaining accessories had now moved into the main. This significantly affected my design.

3 | Have operationally everything visible: switches, sidings, and operating accessories had to be controllable from a single console. (The I must Legacy Cab 2). Since I designed my layout with a central operating area, people could all work within touching distance of each other. I did not have enough space for a large control panel across the whole main area. As a result, my work can just project on the outside of the layout.

4 | I wanted a way to have complete control over every aspect of the layout with a single hand-held controller. I wouldn't be in control while every sequence to switch the train

Operating accessories are the name of the game on Dave's expansion layout. In fact, the track plan was designed around them so there would be almost continuous action for the people in and around the display. The benchwork is finished like furniture and fits nicely into the room.

I used some of these components, go on to my goal. Only two accessories in this special control fences) can in 24 but to be controlled separately.

Flip it is system also had two turnout tracks that provided cool functionality when the trains passed over. I dropped the whole layout proved this system.

Thinking in even greater

I think I started building my layout at the perfect time, with the technology and exact accessories of O gauge. Now, I've see talking ghosts just keeps the short selection of different scenery products available as the market is accessible. As a kid I had Atlantic rifle buildings and cotton

AT A GLANCE

Name: [illegible]

Dimensions: [illegible]

Track & Switches: [illegible]

Motive Power: [illegible]

Rolling Stock: [illegible]

Controls: [illegible]

Structures: [illegible]

Vehicles: [illegible]

Figures: [illegible]

Above Above: adding details. A saxon scale, the rear end of another access within the bigger picture. Note the custom-colour gantry arm, as well as new enhancement shunting things and.

looking at some of my 4 x 4 layout. Ever since I was in a model railway world.

When I started out layout, I decided I wanted to share this adventure with others. So I started to film videos of my layout build and post them on YouTube and the [illegible] Railroading Hobbyist.

Sometimes I think I'm a bonkers, deep down because I love to explain things in detail. I personally present these on Kickstarter and hardly couldn't say my progress, but it proved out others more interested, too.

The model railway hobby has original build have ballooned into a wide range of content on any YouTube channel above all aspects of the hobby and real trains. Although time consuming, it is satisfying.

The final push

I assembling all more than 500 feet of track, 22 turnouts, and 14 access cracks. I finally had a track plan I was satisfied with for so I thought. The layout is basically square

One side of room has businesses, apartments, and a new skyscraper under construction. On the opposite side are the railyard and a facility for number and diesel refueling

to demo sites. I've learned along the way including nominator with others.

Building a layout instead of just laying down track can teach you a lot of things.

I watched a whole professional looking layout using 1 x 4 construction, plus a 1/2 plywood top. All [illegible] weights are

with a crown saucer recorded for running and reversing trains.

On one side are the seven businesses, apartments, and a new skyscraper under construction. On the opposite side are the railyard and a facility for number and diesel refueling. Among the two sides at each

end are residential areas and a farm.

After completing my original design I somehow revised the but I could turn the train around with room and then I could run more 4-track passed again. We loaded everything you wanted the completed and none of all your trains before hallowing. Likewise, again, the railroad changed part of the farmland to connect the trains.

The finishing of the layout — and the creativity that [illegible] access — was the most rewarding aspect of the process. I had the chance of [illegible] that was I worked on a every chance I could. Once I had

A modern mail train grinds by the big city, which contains a mix of buildings from assorted manufacturers. Scott's enjoyment of cars is apparent with the variety of models on display.

completed the trackwork and the scenery. It was time for scenery.

My personality is of the type that when I start a project I have a goal in finishing it. I've read about other hobbyists spending 20 years building a layout. No way I could do that or just not my nature.

I came up with the concept of stage-i scenery, which scenes all the factors are done. Building, trees, sidewalks, buildings, sometimes, and so forth. No lose or unfinished spots on the layout.

To maintain viewing into the mountains, the layout leveled back [illegible] once through it each. I didn't worry about all the reproducing or cows. It was not a hobby I was getting to my finish line.

Think things I noticed maybe [illegible] notes. This is where I concentrate on all the details.

I would take an area at the layout like the rail yard, and start adding scenery details that really bring it to life.

With my imagination runs wild. The scenery on the stage is very enjoyable. I'm always thinking of new items to add

I say to Mortenson at a hobby shop or walking around a train show and see something. A light bulb momentarily goes off in my head that says, 'Hey, I could add that and do this or that so no layout was that would look cool.'

The concept also applies to taking an existing product and adding to it. One example: I took a Plasticville church, painted out stained glass windows on roof, added LED lighting to the inside to illuminate them, and added LED lighting

I have built a lift gate to allow myself and others into the middle of the layout. The starting point was equipment from Bowser Manufacturing

LIFT GATE PUTS YOU IN THE MIDDLE OF THE ACTION

A special feature of my layout design is that you can stand in the middle and watch the trains as they travel around you. It accomplishes that I had to build a way into the centre of the layout. I wanted something completely invisible that did not interrupt the scenery.

I decided to incorporate and build into my benchwork the Z-Matic system from Masterpiece Locations. I modified it so I could control it from inside or outside the layout. By coming up with creative scenery techniques I was able to hide the fact that part of the layout lifts up to allow access to the center.

I love the look of swaggers, those which have two switch arms that open up along with all the scenery. I built one made of Masonite for my fantastic amateur.

Because I have connecting benchwork extending across the lift gate, I had to use two metal inserts to ensure I pick the whole lot and not just the lift gate. This allowed me to have a seamless look between the main platform and the lift gate.

Running the scenery on either side of the lift gate makes the transition appear seamless. People are surprised when it goes up!

Even more scenes tucked into the layout include a busy playground and a neighbor hose stream a delivery is being made.

Scenes at base from Zvezny's Hawaii street power revealed the GPL gully, next to a road featuring cars with working headlights.

The unmistakable color renderings of a toy train filling the front cover of Lionel's consumer catalog for 1950 announced to kids and their families that America's preeminent manufacturer of miniature electric trains had assembled a terrific roster of outfits for yet another year. Combinations of locomotives and freight or passenger cars gave youngsters so much to enjoy while their imaginations soared. Action-packed sets were the rule at Lionel throughout the second half of the 1940s.

Action-packed sets from Lionel's later golden years

DISCOVER THE TRAINS THAT PROMISED THE MOST FUN BETWEEN 1945 AND 1959

By Roger Carp

While the first half of the 1940s, during which Lionel revamped its O gauge trains to embrace scale realism, the second half of that golden decade saw the pioneer manufacturer of miniature electric trains dedicate a lot more firepower to fulfilling full-size dreams and refining the play value of its toys.

The corporation's enthusiasm and its capability for advancing that impressive balance can be appreciated once by scanning the dozens of outfits described and illustrated in the annual catalogs produced at intervals. These wonderful "wish books" declared youngsters and their families an array of new and like-colorful and powerful locomotives and rolling stock.

Paging through Lionel's consumer catalogs reveals a fine class in motion as well as a sharp collection used to enrolled and then

1955 [illegible]

Coast for the ground run-ning in 1955, when Hornby upgraded its O gauge model significantly the previous year with a thin-wire scale locomotive and pieces of rolling stock. Returning for another year was the no. 7 'De Bankstrain', which boasted all the best features Lionel had added to its steamers: Magne-Traction, a three-position reverse unit, a smoke mechanism, an operating headlight and a tender equipped with a whistle. What an example of top notch model-maker-to-best-selling-toy-ish regardless of its currency!

Sets were priced mainly on the complexity of outfit no. 4, as Lionel kept pre-season anything else catalogued in 1955. The five pieces of scale detailed rolling stock – four of which were new to the line in that year – offered plenty of possibilities and the free-run operation through remote control, while not unheard of, was a great deal if you used your hands and imagination.

Start with the no. 2035 operating horse car, a key attraction. It improved the action of unloading on the launch of a festive fire plane. Just slapped on many O gauge layouts. You load the no. 2035 its operating barrel car. The rotating yellow model handled another important task.

Perhaps the most enjoyable part of the Bankstrain set was the new no. 6414 boxcar with four miniature lumber load off or loaded manually. Add more load of moving them around just as they liked transporting "goods" inside the new no. 6464-175 'Bank of Maine' never a dry boxcar. At the end side

Exciting conclusions when Art, a train-packed set one loaded by overstrikes and after. With required that I control my imagination and must over what kids might have done with the operating cars and locomotives.

Not the case with 1956. The outfit I chose was one I know was the perfect example of how much fun and excitement a Lionel set could offer a youngster. With 18 I received a no. [illegible] but it hardly lost in 1956, it remained a cherished part of my boyhood.

What didn't know about that is it wasn't to first with the no. 2065 Hudson, a classic packed with everything a train set could ever ask to go and fro: whistle, smoke, and headlight.

Also grabbing the eye the no. 3656 Missouri operating

boxcar. That the figure on the roof was smart enough to duck when warned by the lookout and then stand up when they again lowered his back off the gate-hatch.

Providing plenty to do with the tiny of freight cars with loads my chubby little fingers could pick up and replace when ready. My favorite might have been the U.S. Mint flatcar with two cryogenic-storage vats. I used the cars' metal ramps to 'move' the loads on and off the red flatcar. Equally as fun for me was the no. 6250 flatcar with wheels. I stacked the cargo off the black car many. I didn't get the cargoes red ones and rolled them along my mod of three-rail track.

All this and all that freight ran which established [illegible]

Lionel put the no. 6361 New York Central gondola with four containers. That model, like the other three cars, was brand-new to Lionel's roster. To tell the truth, I wasn't certain what those items were supposed to represent, but I do recall how much I liked them. Playing me as well was the no. 6257 Southern Pacific flyer-observation at the tail of the train.

1957

1958

To this point, it's been a game – and a challenging one at that – to select an all-new action-packed outfit; a set no dealer could choose at first glance. Retaining, I avoided the biggest operators and most expensive ones.

For 1959, however, I vowed to add something for us (collectors), a Super O nonsense person originally priced at $140 and now valued highly as one of the lowliest outfits ever created during the postwar decades. Going through the consumer catalog in search of anything better proved fruitless. That was with its impressive cast: 164 diecast locomotives and tenders, six pieces of rolling stock, and incredibly operating accessory sets the eleven-year-olds (Who adults adjust?

Lionel had been evolving the pre-Sputnik plan each issue of introducing an accessory with its cup of the line outfits, so placing a no. 175 Hobart switcher was not unprecedented. That classic complemented the space consumers are coupled to recall what many enthusiasts consider the finest steam engines developed during the postwar era. The 746 came with an array of features, among them a smoke unit, a whistling tender, an operating headlight, and Magne-Traction.

Four of the cars were new to the line in 1959. Number what you got with them. A no. 3419 Railgo with a helicopter that could be launched into the sky started this show. Fortunately, continued with a no. 6650 flat car holding an MBM launcher, a pair that operating model on a distant siding, and a round-can cement mixer at the no. 6415 Engineering Supply. It doesn't hit on this classic but sure no plastic parts flying and got a giant grin on the face of every devious youngster.

Less electronics but equally enjoyable was the no. 3560 Work Locomotive, a yard engine that housed the brakeman. Rising objects go well as planes and left and flat the cooler on the no. 6171 Railcar mounting from the extensive

great round safety fun cars into order from the 1/10 accident.

The 6117 illuminated train window caboose rolling at the end of that action-packed season does not command almost the attention it thought. Never theless, it was a superb model, esteemed for its realistic appearance. Its familiar caboose could have been chosen for the 1/40 set's 700 Hills and that caboose outfit lost by a 1/40. One look at that set and there was no way you could resist crowd had been taken away.

LIONEL TRAINS: THE GOLDEN YEARS, 1955-59

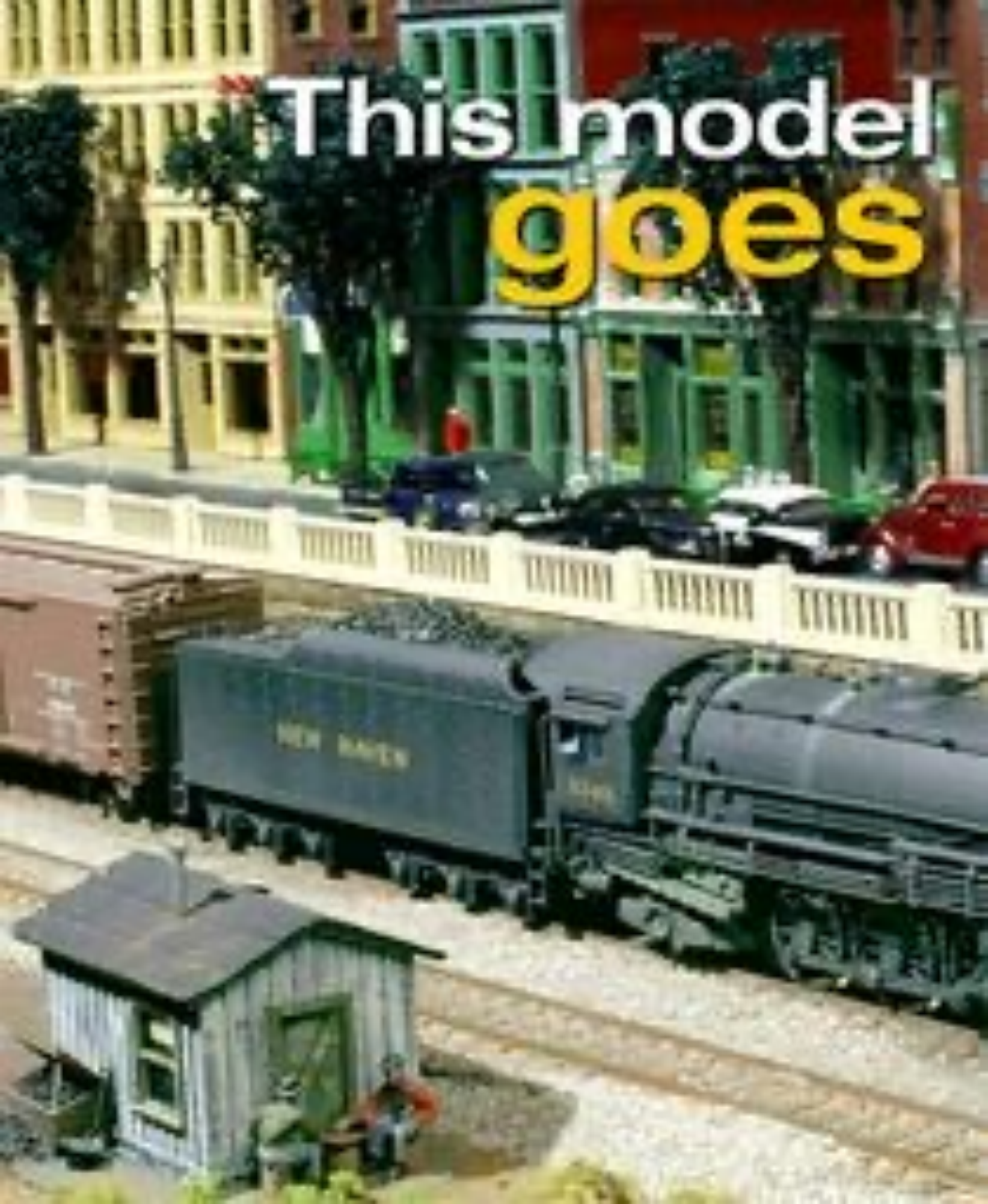
Kalmbach Hobby Books proudly announces the upcoming release of Lionel Trains: The Golden Years, 1955-59, its latest special interest publication aimed at toy train collectors and historians. Following the success of Lionel Trains: The Golden Years, 1900-54, we're thrilled to present a sequel covering the electric train sets, locomotives, rolling stock, operating accessories, and promotional campaigns and displays the Lionel Corp. developed during the final five years of that glorious decade.

This 144-page publication will be written by famed Lionel historian Roger Carp, who has written several books on the history of Lionel trains that Jim Pokrasso and his staff

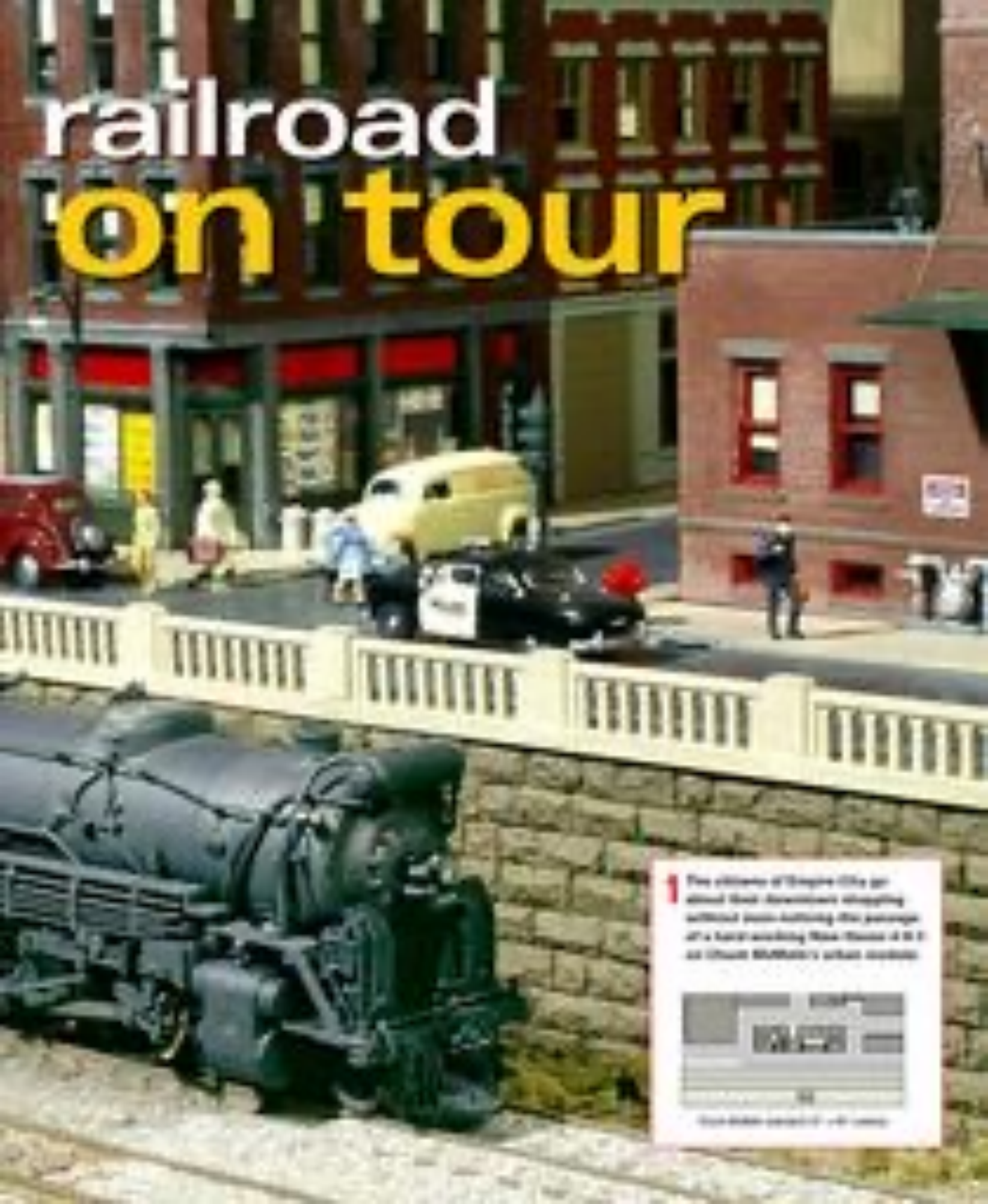
took a closer look at this product line. Lionel delivered 1955 and 1956 diesel news articles will appear, along with some updated features taken from the magazine's earlier special interest publications, and this website.

You can order your copy of this exclusive publication available for a limited time by going to www.kalmbachstore.com/lionel-trains or calling 1-800-533-6644.

ON THE WEB CTT+


This model
goes

railroad on tour



1

Valley HO Trak enjoys sharing the hobby

By the club members • Photos by Lou Sassi

Thanksgiving weekend 1987 marked the beginning of our 60-modular model railroad club. Back when there were only a handful of modulars, we had a show in Derby, Conn., sponsored by St. Mary's Catholic Church and the Valley Model group. After a full day of working on the 12-mod layout, we had 12 people (welcome) to become an HO modular club.

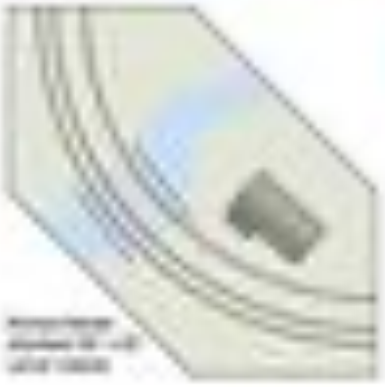
We called ourselves Valley HO Trak, and we first began show-and-tell March 1988. By July 1988, our membership had grown to 21 and our mailing list to 41 people. Since

The club's modular U.S. 1/8" scale

3 Right, at Nene House in N 2 is racing personnel on Jean Micallef's engine terminal module. The locomotive is an SKC model that Ricky Cheeseman-superdetailed and painted

4 Left, The route engine servicing area shows some of the detail Patrick Goedert incorporated into his Birmingham Junction module

5 **A Metro-North commuter train, led by an FL9 that Rolly Dumas airbrushed, races through a rural modeler-built by Richard Kaissis**



Bottom-mount brackets attach 18" curved sections to roadbed.

Enthusiasm club meetings can lead naturally to locations' layouts as a social center focus. In these gut organizers are handle locations owners and passenger service layout choice inherent to our sensitive railroad. Fortunately, our members are willing to share their expertise to help overcome in the group.

Our single-direction combined the work of layout are usually hosts. Staff we need blocked scenery across all the modules, so would we be such vacation to share

were there? We decided to leave all individual scenery, so the members who build their own designs and other even stationary (two) decide. This permitted a variety of landscape techniques and industrial scenes, individual yards, enclosed areas, viewer's scenes, and a large logging operation. In short, we did what to promote our members' interest and maintenance control themselves.

Construction standards

When we first started, there were no published standards for HO modular layouts. Therefore, we adopted the Finescale Modeler construction standards and established these as our own. They are either 2 x 4- or 2 x 6-foot straight sections and 2 x 4-foot curved sections.

The modules have open grids 1 x 4 framing with ½" plywood tops. Inside straight sections with special access can be as long as 16' as long as their dimensions the standard track-centers dimensions. The leveling height is set at 38".

All of the legs are removable. Each leg includes a 3" nut and bolt on the bottom for leveling. Fitting wings are centrally bolt-on and modules at 48" and then clamp and level each adjoining module until the layout is complete.

Initially, we had a double-track main line with track centers spaced 3" apart from the front edge. We used a wide 108 Micro-Art transition tracks along with Micro-turnouts. The curb of each track are set back exactly 9½" from the module ends, so 9" portions of both connecting track can connect adjoining modules.

We added an optional third track at our specifications. 30" from the front, the more design flexibility. This third track is more the passenger main for use by all freights and other switching operations.

A pre-available two-wire cable (green or red) each below electric plugs and a six-foot extension cord with 18" centers.

We use here the legs for adding around the layout a dark colored skirt that's secured with Velcro strips. A separate piece for any visible shows. A six-by-2" high 1-seam plastic plate screwed to the bottom from Plexiglas) makes a drainage along the front edge.

For consistency, we paint our all a beautiful with brown Federal Blue Blue, and we paint all of the benchwork and legs Olive Yellow Style Brown. The coverage cost for the paint on a module is about $100.00.

The layout at a glance

Name: [illegible]
Scale: [illegible]
Size: [illegible]
Participants: [illegible]
Location: [illegible]
Era: [illegible]
Style: [illegible]
Minimum size: [illegible]
Minimum radius: [illegible]
Minimum version: [illegible]
Minimum grade: [illegible]
Benchwork: [illegible]
Height: [illegible]
Backdrop: [illegible]
Track: [illegible]
Scenery: [illegible]
Backdrops: [illegible]
Layout: [illegible]

[illegible]

Scenic effects

[illegible]

Show operations

[illegible]

[illegible]

[illegible]

[illegible]

6 [illegible]

[illegible]

Modular standards

The National Model Railroad Association (NMRA) has adopted standards and recommended practices for building modular layouts in scales from Z to G. They're based on the original modular system developed by Nmra and adopted by the Valley Hill Club.

Modules are small, standard-size, portable model railroad sections designed for interchangeability so they may be assembled into a large operating layout. They have standard ends, so modules can be assembled in any order. Most are built and owned by individuals who choose their modules' scenery, theme. Some clubs use standard scenery methods and materials so their members' modules will blend together in a layout.

Sectional layouts are often built using modular construction techniques. However, the individual layout sections fit together in a specific order for scenic or track continuity, so the sections aren't interchangeable.

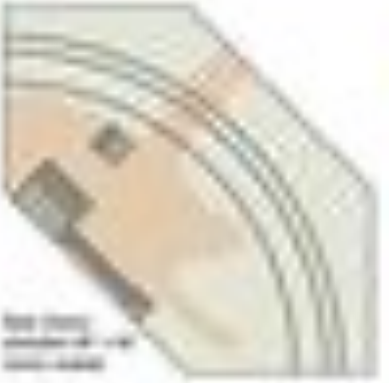
Careful attention to standards is a necessity for successful modular modeling. The NMRA's modular layout standards and recommended practices are available as PDF files at www.nmra.org/standards. — *Jim Hediger*

An NMRA standard for a 48" module

Each musician has no more minutes and each pair of hits used to adopt through a many wherein switch an solo user track is manipulated at a time. Insert individual evaluation clues outlined opens times as the lead track. Industrial exhibiting locations, small yards, and engine terminals with immediate. However, the music there always remains inside the control of the instructor inventory.

7 Jim Brooks modeled this crescent log scrawler-snapper from a cowhide promotion. The New Haven 4-4-2 passing understreet is a brass model painted by Tony Middleton.

8 Predictably long trains often require several diesel units for a road trip. This Providence & Worcester power consist leads a manifest past the stone quarry on Ricky Dumont's model railroad.



Bob Hayes provided us with a track plan.

Club members

Valley RR Trio club members from (our Richard Kelsey, Ricky Dumont, Jim Osborne, Bob Dennis, Bob Cullen, second row: Peter Goebel, John Kravitz, Mark Schuette, Nicole Hostetter, Sara and Katya Gaden, Phil Fontanazza, and Jean Schreiber. Not present: Bob Cochran, Jeff Gaen, Glenn Edwards, Brian Hochstuhl, Barry Jasinski, Chuck Kelchner, Duke O'Connell, John Osmun, Mark Osmun, Craig Powell, John Viola, and Jeff Zeeny.

Eventually, we'll all share hometown and the public realm in our chosen hobbies. We've no long trains operating continuously on short-radius track, while the hand-laid track is used for the way freights or individual operations. Running modern as the layout is just half the fun for me. It keeps our many visitors happy.

Sharing the Fun

Our visitors' smiles, especially from the little ones, and compliments from the adults make our efforts worthwhile. We participate in clubs to see shows, get new ideas, or support all kinds running efforts. We have never shunned operations. We receive many thank-you notes after each operating session. We encourage visitors to sign our guest book. Some of the comments have been very complimentary and encouraging. We've had visitors from as far away as Germany and Japan. Many have been local children who have been fascinated by the trains. Some have been adults who have been impressed with the detail and realism of the layout. Many have been model railroaders who have been inspired to start their own layouts.

Through it all, we've had a lot of fun, met lifelong friends and shared the layout's great fun. The day-to-day operations remain to be many more Christmases that we remember have developed over the years. **MR**

Block detectors make it easy to determine train locations on your model railroad. This photo shows some of the detectors available that are compatible with Digital Command Control. Photo by the author.

Block detection and Digital Command Control

An age-old question you may find it necessary to determine if a section of track is occupied for a while. This could be a block for a signal system, a section of hidden track, or a lift.

There are several ways to determine if a track is occupied. A photo sensor between the rails and an overhead light source is a popular optical method. If you're simply trying to determine the occupancy of hidden tracks, you could use a sensor or video camera.

Another common way to detect occupancy is by sensing electrical current passing through the rails and rolling stock. The Zilog technique we used recently, each piece of rolling stock must draw current. Locomotives, lighted passenger cars, and lighted caboose usually work well, but older rolling stock does have occasional difficulties. There are detectors commercially, or you can make using Hartley's Model Railroad Electronics (MRE) modules, as shown in **Fig. 1**.

A variety of signal systems are available today. Many offer a block detector that's compatible with DCC. There are also a number of Digital Command Control (DCC) block detectors made by firms that don't offer signal systems.

Until control systems like DCC were introduced, model railroads were often controlled with direct-current (DC) cabs. Many current-sensing detectors designed for DC may not be compatible with DCC, so it's a good idea to test them first.

Most current-sensing block detectors can be divided into types. The first must be set to sense milliamps of the rails. The current passes through a resistor or diode, creating a small voltage across it that is measured and used to determine if there's current flow—a designer's nightmare. Circuitry on the block detector detects the voltage and reports if the block is occupied.

The second type uses a reed that the track feeder is run through. It takes an average of DCC being alternately current with it and acts like a mechanical or simple electronic voltage.

Some detectors also have a way to adjust how much current is needed to indicate a positive detection. The method varies between detectors. On all types of current detectors, the current going to the track must pass through the detector. There can't be any track power connections to go directly to the rail without going through the detector.

To use a block for DCC, at least one feeder wire from somewhere in each block must be connected to the track. The DCC booster feeds the track, and track feeders are connected to the rail and the rails to power the track.

When adding block detectors in addition to the required, a rail has been for control. See **Fig. 2**. The track feeders for the block are attached to the rail that's farther from the point from which power to the rail is the rail or other part of the block. All connections terminate the track bus and the rail that you install through the block detector.

Depending on the block detector, the rail that can either be a single wire or one for each rail. Some block detectors require that power connections be run through it, which supply rail the detectors that supply only the rail that only has to be one wire, and only rail has to be grounded.

Fig. 1. Wheelset sensors. This illustration shows where to install a surface-mount resistor on a metal wheelset. Illustration by Tom Lapin.

Fig. 2. Single wire block detection. When using most detectors, track feeders for each block should be connected to the rail they called from the main bus. The wire attaching the rail bus to the main bus passes through the detector circuit. Illustration by Tom Lapin.

Fig. 1 Block detector. Mike used HO2's HO19 block detector on his HO scale Sno-Line layout. Connection between the sub bus and the track wire of the main bus is made through the BD201's coil.

Axle detectors are capable of detecting multiple trains. One is sure detection if several trains are close to one another, such as on interlocking plant. Motorized block detectors usually form at the back of some but block-like are detecting. Here HO 1 in AC, any given signal detector causes a leakage current. That current may give a false occupancy indication.

Some detectors require external power supplies, while others receive their power directly from the DCC system. Once the block detector circuit is powered, it continuously monitors the track for the presence of a train. Most detectors are designed to work with a specific signal intensity and work internally with components from the same company. Don't use signal from occupancy to control a small phase signal system or a computer. Most detectors can generate small current with a variety of other circuits.

I designed my own automatic block signals using a Programmable Logic Device (PLD). For the system to work, I needed a block detector.

I used the MRC BD2, which works well with any system. The BD2's shown in **Fig. 1** requires the block current to pass through its coil. My track feeder is made of black and red wires. Track feeder to the outer rail are attached to the red wire, and feeders for the inside rail are attached to a rail the for that specific block. Connection between the rail bus and the block wire at the entry has to made through the coil of the BD2.

I used two 18AG stranded wire feeders from a spool. Both 14 inch pieces of milling were. I used two because short runs can prevent excessive wheel-to-rail contact, making it possible for the rolling stock to occupy detectors.

My DCC system is set to 14 volts. Using Ohm's Law, I calculated that a single 14A detectors would draw about 1.4 A (14V/10Ω=1A). The sensitivity of the BD2D is adjusted to the number of trains through by coil. By increasing the ohms on the back of the BD2D, I found that I could send about five trains to detect a single direction. Unfortunately, with any 5 Long DCC locomotives with two units are allowed on the BD2D. As a second unit, any signal controls had two of a train on the detector weight than a thought. Those trains through the coil were enough to detect a single wheel set.

The output of the BD2D is an open collector transistor, which means there are two terminals. One first, the emitter, is tied to the ground of the signal system. The second, the collector, is tied to a logic input of the signal system. When signal systems have inputs that are tied to some voltage through a resistor. This a unipolar for the open collector output found on the BD2D. My system is tied to 3.3V with a weak (high resistance) pull up resistor that I built into the PLD. With no current in the block, the transistor is off and the collector is at 3.3V. That's considered a "1" in the PLD.

When a current flows over the block, the transistor is turned on and the collector connects to the emitter, making the collector ground or "0". The PLD detects that its input goes from 1 to 0 and knows the block is occupied.

If you're using a signal system that requires a constant 5V logic, an interface is required between the detector and the computer. Optimus Lines and M-A among others, offer modules that interface block detectors to their respective cab buses. Part also make other small size that connect the's cab buses to computers. DCRP, A DCR Industries, and Autoload & Co. offer computer programs or control signals.

The use of block detectors can add a new dimension to your layout. There are electronics choices that work well with DCC. Shop around and we refresh new ones that like you.

Send your questions about Digital Command Control to MR Command Control, P.O. Box 1612, Waukesha, WI 53187, or e-mail them to us at mrcommand@kalmbach.com. We regret we can't answer all the questions we receive.

Sound effects and operating pantographs highlight the MTH HO scale bipolar

The General Electric bipolar

Prototype. General Electric delivered the 330 two electric locomotives to the Chicago, Milwaukee & St. Paul Ry. in 1955. The railroad called "Electrics" for its series of 1915 "flat locomotives" were called "bipolars" because each of the 12 one-time workers had only two drive axles. The 1,200 hp gearless locomotives were

A volume knob and pantograph controls are on the frame.

The model. The model's dimensions match drawings in the 1937 Locomotive Cyclopedia and Locomotive Dimensions Handbook. The MTH bipolar models the prototype as it looked the most of its years. In 1955 the railroad installed additional roof fairings on each end, but we omit them on top of both hoods, and remove the air compressor piping on the exterior of the hood. In the late 1960s the bipolars were given silver on the center of the locomotive was plated over.

On the prototype, the A end had the air compressor and its external piping. Although the bipolar had two cabs and could run in either direction, the railroad preferred that it was with the A end toward the front, since only the A end had a forward horn. Unlike the MTH model, a configured in use with the A

Pantographs and couplers. The operating pantographs automatically raise and lower according to the model's

Highlighted in this issue

- Atlas HO scale Arco AAR(A) centerbay
- Piko large-scale German diesel
- Kuehn HO scale late-era Swiss boxcar
- Atlas HO scale center-beam flatcar
- Micro-Trains N scale PS bogie

The MTH Hyperion features air compressor piping and other separate details.

directions using 18-, 10-2-, or 24-2-wire control. When the model is moving forward the working pantographs remain raised, as on the prototype. When the direction of the locomotive is reversed, the front pantograph lowers then the rear pantograph functions. The pantographs can be individually raised or lowered to positions of the model's choice out of travel using a DC or DCC system.

The remotely operating couplers can be triggered using DCC or DCS. This feature worked only with newer systems. We have set the operating sensitivity required for this feature. The Hyperion had to be running at 24 scale mph or under for the locomotive's coupler to engage when on a car, and close the knuckles. On the prototype, such a speed would be quite startling for passengers.

Performance. The model's performance was unremarkable on DC, DCC, or DCS systems. In all three modes the model ramped up its demand speed without any jerking or hesitations.

I tested the model on DC using a Model Railroader's Jazy. With 8 pounds pack. At 12 volts the Hyperion ran at 28 scale mph, and at the power pack's maximum output of 14 volts, the model turned at 37 scale mph, which is close to the prototype's allowed speed limit. Although I'd install the Hyperion's top speed at 40 mph, the Mfrmodern limited its speed to 28 mph.

When I ran the model with an MTH DCS system and an MTH PS3 system, the Hyperion achieved a top speed of 38 scale mph. When I set the Hyperion at 100 speed steps in DCC, the model moved steadily at 1 scale mph on speed step 1 (controlled by the DCS system). The result is scaled at 1 scale mph and as estimated on a scale mph increments.

Pressing light or locking a passenger train, the model can through the 4 sound notch increments without difficulty. The Hyperion can handle six 36" curves, although this is too tight for most scale model passenger cars.

On level track the Hyperion can negotiate fairly fast passenger cars at speed. On a steep passing grade the model pulled seven passenger cars with no slipping.

Sounds and programming. The Hyperion features several effects in DC, DCC, and DCS modes. In DC the sounds are limited to announcer effects that the locomotive and crossbuck air whistle. Operating functions provided when I specify decreased the throttle. More sounds, including many user-triggered effects are available when running the model on a DCS or DCS controlled layout.

In DCC or DCS the sounds of user-triggered effects include the headlights, bell, horn, and coupler sounds. You can trigger a train start passenger and several inspection like an Amtrak Horizon coaching or loader. It would sound quite realistic if these announcements didn't come from the locomotive.

Although you can control the sound volume level, individual effect volume levels can't be controlled to configure their variables. The only configuration variables available program the locomotive address, acceleration and deceleration rates, and inverting the model's direction to forward. The MTH model supports user programming on the menu.

For serious modeling the Hyperion's decorated numbers in those operated in heavy service locomotives, the interior of the MTH Hyperion is a welcome mystery. Heavy thinning, some color

HO scale bipolar electric

Price: $400.00

Manufacturer:
MTH Electric Trains
1500 Concourse Gateway Dr.
Columbus, MO 43268-1020
www.mthtrains.com

Paint schemes: Jet Milwaukee Road, two road numbers each ordered, noted; black, orange and maroon 1958 Aberdeen Alaskan; black, orange and maroon with silver stripes; yellow and gray Union Pacific; orange and gray; orange and maroon 1948 Olympian; scheme was no. 5-1

Era: Late detailed late 1950s to mid-1960s

Features:

- Electrical pickup on 18 drivers
- Five-pole skate-wound motor with flywheel
- Metal RP-25 contour wheels in gauge
- Minimum radius: 36"
- MTH Digital Command System with Proto-Sound 3.0 operates on DC, DCC, and DCS layouts
- Remote control pantographs
- Two-speed operating knuckle couplers at no-cost height
- User-installed Kadee compatible magnetic knuckle couplers
- Weight: 1 pound 9 ounces

MTH HO scale bipolar

Now on ModelRailroader.com

Video here can watch videos of the MTH bipolar as well as the Atlas HO scale GS4 and the new Kuehn Swiss boxcar on our website. You'll find links to the videos in the Online Extras box on our home page.

Athearn N scale Challenger and Big Boy re-released with SoundTraxx DCC

Steam on N scale rails. The Athearn Genesis 4-6-6-4 Challenger and 4-8-8-4 Big Boy each feature a sound system that includes a SoundTraxx Digital Current Holding Circuit (DCC) decoder with a six-pack of authentic steam effects. The models run the same prototypical 4000- and 4014-series equipment that rebuilt the Challenger introduced to the road 2007 Model Railroader and the Big Boy in the late 2008-10s.

A powerful tag team. In 1941, Union Pacific followed its 3-cylinder 4-6-6-4 Big Boys in the Class 4-cylinder Articulated by 3 years to 1941. These massive locomotives worked the UP's steep 1st Division Wasatch Range from Ogden, Utah, to Green River, Wyo., a roughly Big Boy-model best a 4,000-ton train up the 1.7%-percent grade without a helper locomotive.

To keep that freight moving out, the railroad also ordered 40 4-6-6-4 Challenger locomotives in the early 1940s through World War II. These locomotives were improved versions of the 4 Challengers first developed for UP and Utah in the 1930s.

The Challengers and Big Boys were simple articulated locomotives. The term "simple" refers to both how and how engine using high-pressure steam within a steam-spent "compound" or "duplex" engine that re-used the exhaust of one set of high-pressure cylinders into larger low-pressure cylinders. The engineers' challenges were to get passenger train speeds of 80 mph, a Big Boy pulling up to maximum 6,250 hp or the fast freight speed of 60 to 70 mph.

The UP's adoption of lightweight alloys and diesel-electric locomotives diminished the careers of both Big Boys and Challengers. However, several examples of each design locomotive have been preserved. Challenger no. 3985 remains part of UP's historic steam fleet and is the largest operational steam locomotive in the world. It's also been recently an excursion line UP plans to convert Big Boy no. 4014.

The models. As noted in the earlier versions, the plastic models match drawings by the Model Railroader Cyclopedia Vol. 1: Steam Locomotives (Kalmbach Publishing Co.). The most discrepancy between the model and the prototype to retain the articulated frame. The prototypes also stands the rear engine are up idle attached, and with the front engine swivel from side to side on a hinge between the rear cylinders. On the Athearn models both the front and rear engines swivel to allow the locomotives to negotiate tight curves.

Wire-spoke and boiler handrails are clearly molded on the plastic bodies. Separate parts include the whistles, handrails and valve stems. There's also glazing in all the cab windows.

The lettering is straight and includes the correct Harriman classifications under the cab numbers on both locomotives. Challenger no. 3977 honors the 3-time gas-saver entries that was earned for its passenger between 1941 and 1943, when it worked in passenger service on the UP Northwest Division.

The Big Boy offers a few cons to the first releases. Both models have two-tone tires for added pulling power.

A smaller and wiring harness pin incorrectly connects each locomotive and tender. The decoder and a 4-dimensional-cone speaker are housed in the tender.

New sound system. Improvements over previous SoundTraxx decoders and speakers in these Challenger and Big Boy sound stereo as good as most manufacturers equipped HO-scale versions. To me our the clarity and the volume are an improvement over those of the first 4080- equipped releases and sound even like sometimes recent-age I've heard.

The six DK sound track, the sounds cover an 11-notch throttle, including the six compressors. Effects on a DK layout are limited — a whistle shuffle per which can distract as I maneuver the throttle, and I found squealing brakes when I decreased the throttle. The bell sounded more realistic when I activated it with the function keypad rather than the throttle.

The earlier 4080- equipped versions included a 4-function remote for triggering sound effects via a DK layout. The SoundTraxx remote relies on the power pack's directional switch to trigger sound effects. I triggered a grade crossing signal by quickly flipping the directional

switch when the locomotive speed exceeds. While again sound when the accelerometer senses forward momentum and backward slow down. I found these two useful, and it let the prototype the engineer would sound the signal before acceleration was at motion. These automatic effects can be shut off, but to do so requires a CV 12 system on the sound controller like the ESU. It is a

The forward horn decoder has in user-triggered functions instead of the 24 available on the ESU decoder. The basic useful sound functions are still there, including the bell, whistle and coupler crash. There's also an electric effect and a motor stop sequence. Those at the time were best not be swapped according to the user's preference.

When I turned on the headlight function (F1) I heard the whine of the generator. The effect was a bit loud in comparison to the other sounds, but not so much. One of the most useful features of the SoundTraxx decoders is that it allows the modeler to control virtually every aspect of the locomotive sound. The volume level of each sound effect is adjustable. There's also a 7-band equalizer and volume control.

Function 4 triggers operating brake sounds and each time a train when decelerated. Variable 4, 5 or 6 is also programmed. The train brake feature is useful for slowing down a train with a ton of momentum programmed into it. The braking rate is adjustable, but it's not too high, the train acts as an anchor that a model railroader may have to.

The free downloadable instruction manual available at tsm's website user the free programming tips and tool kit file supported CVs.

It still sits out on the chairs on the right track recently performed well in DK and DK7, speed tests. The top speed is more than that of the prototype but is not enough for what should followed.

The following benefits were noticeable the first more smooth. The sound from decoder is a welcome enhancement and brings the Big Boy and Challenger to life in N scale. — Dana Rotondo, senior editor

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Additional test-run videos of the Athearn N scale Challenger and Big Boy locomotives. Click on the link or www.ModelRailroader.com.

Challenger and Big Boy in N

Price: $470.00 (Challenger), $499.98 (Big Boy)

Manufacturer
Athearn/Trains
1909 Kramer Way, Ste. 100
Long Beach, CA 90810
www.athearn.com

Era: 1941 or 1951 (Challenger); ex. 2017 as painted and detailed 1941 or 1950 (Big Boy no. 4009)

Road names
Challenger: Union Pacific (4 more grey or black, multiple road numbers), Cincinnati, Grand & Rio Grande Western
Big Boy: Union Pacific (multiple road numbers)

Features
- Dual flywheel equipment motor
- Electrical pickup on (4 drivers (Challenger) or 12 drivers (Big Boy) and 16 tender wheels
- Operating headlight and backup light
- SoundTraxx DCC decoder
- Magna-Matic knuckle coupler on rear of tender at correct height
- Minimum radius 11 1/8" or greater recommended
- Traction tires on first drivers of front engine and last drivers of rear engine
- Weight of engine and tender: 6.7 ounces (Challenger), 7.1 ounces (Big Boy)

N scale 4-6-6-4 Challenger

Performance	
Minimum radius for reliable operation	Minimum radius for operation with close coupling
11 1/8"	11 1/8"
11 1/8"	11 1/8"
11 1/8"	11 1/8"
11 1/8"	11 1/8"

N scale 4-8-8-4 Big Boy

Performance	
Minimum radius for reliable operation	Minimum radius for operation with close coupling
11 1/8"	11 1/8"
11 1/8"	11 1/8"
11 1/8"	11 1/8"
11 1/8"	11 1/8"

Broadway Limited Imports N scale PRR T1 4-4-4-4

I recently reviewed two N scale diesel locomotives from Broadway Limited Imports (BLI) featuring Paragon3 (Sight | Command | Sound (DCC) | Recorders with Rolling Stereo (Mono) and Way) (BTP). Now, BLI's three-shelving, removable-screen system in N scale steam power with the Pennsylvania RR class T1 4-4-4-4. The globetrotting locomotive can a mythic figure on the route but withheld lively maintenance and low-drive issues that stemmed in after only a few years. The BLI version, on the other hand, runs as good as it looks, with smooth DCC operation, realistic sound and impressive pulling power.

An idea whose time never came. No duplex drive reversed the Legend also on paper. Designed by the Pennsylvania locomotive building partners Baldwin in the early 1930s, the duplex drive followed the physical and practical limits of sight, and not coupled locomotives by splitting the engine into two independent units. With this design it was also small, rotundness could be smaller, mechanical stresses could be lessened, and side rods could be lighter, reducing hammer action. Boilers were bigger, given the when viability as the weights was saving from a compromise front. And a short cylinder design (Limey's Legion Power) was right, and the growth of electric and diesel electric locomotives.

There were problems right from the start with the two prototypes delivered in spring 1942. Fundamentally unsuccessful by designer Raymond Loewy, the T1 was intended to pull the Pennsy's flagship passenger trains. However it had design problems — wheel slippage, rigorous valve motions, and that long, rigid wheelbase — that weren't solved by the chassis made when Pennsy ordered 49 production T1s in 1945 and 1946.

The fabulously looking T1 was supposed to be the ultimate steam engine, but in that description only on the sense it was the Pennsy's last. In 1948, the Pennsy's governing board decided to put diesels on pulled of its top-level trains. The T1s were relegated to second-rate trains. By 1949, most of them were in storage, the fate was snapped up 1957 from service.

The model. With its pointed prow and pantheon-scented pilot, Loewy's streamlined T1 design was a triumph of late 1930s industrial. Practical concerns always took over for the production units, and the BLI back-distributed to 1949 had a more rounded nose and less power dome for better access to the valves. The 1949 back replaced the streamlined pilot with a rotary beam coupler and the PRR keystone over the nose. This is the version depicted by BLI's model.

Broadway Limited Imports' N scale version closely resembles Athearn pulled behind a model shortcoupler (Locomotive 101 | Steam Locomotives & Models & Books, out of print). The model's chassis were likewise developed up to the day, given painted in steel finish, including the wheelbase and the driver diameter. That's a big set. N scale, a scale in which wheel flange depth often requires accommodations in the area. It helps that the visibility was one of drivers on "steam" or flangeless, so make the engine better side than it seems.

The model's paint scheme also received polished plastic. The Dark Green Locomotive finished out almost black, made of green, even cab the pennsy's finest was smooth and evenly applied, and the Police Gold striping on the tender was crisp and straight. The lettering and numbers were likewise sharp. The key holders, plates painted on the skirting weren't quite top-line under magnification.

Firing it up. As the Paragon3 sound decoder is short lands, the locomotive model with stable about current and D.C. I read in first mode DC, using a Model Rectifier Corp. "Sc10" power pack and a BLI DC Model Tester separately. The latter serves a small terminals for power pack and the track to provide access to some DCC functions.

Sound decoders equipped engines take a bit of voltage to get warming, and BLI's T1 is no exception. As I turned up the track voltage, the sound of a throttle stuttering over into the firebox began a startup sequence at 4 V. The engine started rolling luminously just below 5 V, smoothed out at 7 V, moving at 8 V scale speed. At the main output of the power pack, 12 V, the locomotive rolled at 14 scale mph. Also at the 100 mph speed limit assigned on the T1s by PRR rules.

To expand the locomotive's voltage range

The T1 is equipped with magnetic knuckle couplers. Details like wire grab irons and train phone system antenna add to the realism.

I used one CV to control the value of a configuration variable (CV 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56,

Walthers HO General American G-85 flatcars

A General American G-85 flatcar has joined the Walthers/Mainline product range. The 54'-1-inch steel bottom plate and 50'-6-inch steel construction, underbody truss detail, and three-foot metal coupler, Walthers offers the car in trailer- and container-loading versions.

Pre-prototype. The General American G-85 flatcar was a versatile hauler. An article like us in the 1961 Car Builders' Cyclopedia of American Practice (Simmons-Boardman Publishing Corp.) noted the fabricated "designed for handling trailers, van and tank containers, automobile racks with corners, special end constructions, and a semi-fungible with all other types of piggyback cars."

The G-85 featured exposed side frames and a round center sill that doubled as a guide for trailer tires. The flatcar lacked side sills, allowing it an unobstructed view of vertically cars widths.

One sample is delivered as UTTX 190109, part of Trailer Train's 190001 through 190614 (190-car) built between August 1966 and March 1967. Two more thousand, 190109 were issued to the Railway Express Agency as its 7000 to 7109 cars (a 100-order originally built 1113 another the UTTX prefix) were applied starting in 1966.

The full-size cars were equipped with two underframe tracks supported General American G-87 SAARs, the Gunderson "Accordion" hitches.

Piggyback service G-85 flatcars could transport two trailers up to 40 feet in length without front-to-rear clearance problems while on a single 50- or 60-foot radius. The trailers could be loaded curves axle to axle or overhead cranes.

The G-85s were placed out of piggyback and containers service in the mid-1980s. Our flatcars were converted to general service and lasted into the 1990s.

The model. Our review sample current is accurately painted boxcar with a tripod white stack. The separation lines between the colors is sharp. The lettering placement matches prototype photos.

The plastic also shows the 89'-6-inch and 47'-7-1/2 (nominal) coupler-to-coupler trailers that are also available.

The wheel set is also cast metal with sideframes. A plastic plate with flanges for the sideframes spans the side trusses to the bolsters. When assembled details include a separate bolster applied air reservoir, coupler cutlet, and brake cylinder. Plastic rod, truss, and hangers over between the bolsters brake lever and the hand brake. You can also installers the couple numbers molded cover and lowering (1:87 inches).

Plastic deck pieces are glued to the top of the body bottom and sideframes. The top flange of the I-beam center sills and reinforced rub rails are injection plastic parts. The grab irons and stirrups are molded.

A two-piece plastic subassembly glued to the model covers the operating mechanism, coupler, lead hook, and light weight data and Trailer Train name and logo. Walthers provides numerous to different colors to match the road names it offers. The plates and hooks and detail are delicate, as the control where you handle the model.

In addition to "trailer train, the G-85 flatcar was released by private railroads, including the Erie Lackawanna, Great Northern, and Kansas. Models A Santa Fe car shown was made to model throughout the North American rail network. If you model 1961 through the 1980s, this is a car that or could look right at home in an intermodal train or could also a coastline freight. (Ed. corona, group editorial editor

facts & features

Price: $29.98
Manufacturer:
Walthers/Mainline
5601 W. Florist Ave.
Milwaukee, WI 53218
walthers.com
Era: 1961 to 2000s
Road names: BNSF trailer-hauler, Trailer Train UTTX appearing reefs, brown and yellow schemes, Hutchison, Kansas & Santa Fe, Penn Central, and Southern Pacific. For 20- and 40-foot container loading: Maersk Express, Hyperco, and Trailer Train UTTX models. Five road numbers per scheme.
Features:
- 50'-6" steel bottom recommended sides
- 50'-6" metal underframe, commonly grouped
- Fit two side-bearing trucks
- Detailed underbody with brake gear
- Die-cast metal center sill
- Molded simulated trailer hitches in raised and lowered position
- Prototypical couplers, correct height
- Weight: 3.5 ounces (A nearest we right per National Model Railroad Association Recommended Practice 10.1)

Athearn N scale TTX tri-level auto rack

Introduced for the first auto racks were developed in the 1960s as a way to protect automobile shipping traffic from highway tractor. Athearn is offering a new N scale version of this iconic and expensive freight car in a well-detailed overall running model.

The matter of insertion. Prior to the 1960s, automobiles were shipped in specialized boxcars. They had extra side doors and interior equipment, but they could hold few cars each and were difficult to load and unload. Auto racks permitted driving of vehicle cargo to be loaded in a style from a single set of ramps, addressed these issues promptly.

Early auto racks were usually owned by the railroads and attached to flatcars owned by a car leasing company like Trailer Train. The distinctive interior of auto racks was introduced to N scale by Athearn, which built the racks depicted by Athearn's model. Tri-level racks were used for new model vehicles such as sedans, sport cars, and interior wagons, pickup trucks and other tall vehicles had to ride on two-level racks. The flatcar used by Athearn's model is a 89-foot-long Tech 70 that doesn't ride out as loaded for its distinctive C profile.

In 1960, the standard length for flatcars was 89 feet, state rack makers like Athearn & Kato started to longer flatcars finding that an increase of just a few feet for their cars as cars per deck. Trailer Train adopted 89 feet as its new standard for all flatcars and that more for auto racks in 1961. This proved to be a boon for trailer-on-flatcar shipping as well, which made lengths grow to the 89 ft.

Measuring up. In James Kinkaid's Athearn Hydra Color Cards at Knight and Passenger Equipment Informing has Books, 2004) I found a sheet of 'TTX 70 000s, a Athearn Pacific car from the most seven a car of ten sample sections. The model strongly resembled the prototype plans, with a couple exceptions. The first is that the model is lacking crossover plates. The prototype plates also hooked the model's top deck safety railing, though I have seen such a railing on other three-deck auto racks.

The paint on our sample models was smooth, and did not clog fine details like the rivets on the side posts. With a magnifying glass, I could read even the smallest white printing on the cars. Under magnification, I could see the white printing on the Athearn Pacific car's two-color "keystone" boxcar insert. Lettering is crisp, but in the overall view, it looked fine from a normal viewing distance.

Most of the cars' weight comes from the cast metal flatbed deck. Upon cars like this extensive used on the light side, the thing matched the Weight Recommended Practice (RP) for weight. The underframes have some small circular openings from the model on rear mechanisms, but they're not visible when the car is upright. The underframe looks detail a lively number from Kendle rear running gears and separate applied on the ladders and rail safety railings.

The cars have small metal TTX trucks with Kadee 5 internal mechanisms. The wheel sets shortens, all of which were in gauge. The body measured 3/4 inches wide (what couplers were, that's no, at the correct height.

Long cars with truck-mounted couplers usually will go to a wider area more radius. The manufacturer says the cars can handle curves of 10" radius but recommends 11" or greater. The cars encountered no problems with the 11" radius, 14 percent grade tests we run N scale 4 locations. Cameron prizes cut road. The did find both of cars come of these installed rubber between in that haven't slightly track.

If you model a bridge line or line railroad in the second generation diesel era, your railroad probably would have hundred piece trains. A line such auto racks like these three. Athearn would be a great way to visually set your layout's era. – Steven Otter-Nickerson-Lafferty

Despite having no room to hide weights, this Athearn auto rack meets National Model Railroad Association weight standards due to its die-cast metal flatcar.

Facts & features

Price: $42.98
Manufacturer:
Athearn Trains
1000 Trailer Way, Suite 120
Long Beach, CA 90810
athearn.com
Era: Mid to late 1990s
Road names: Burlington Northern Santa Fe & Pacific Southern Railroad, St. Louis-San Francisco ("Frisco"), Norfolk & Western, Northern Pacific, and Soderland Transcon. Many road numbers are model number with some small New road names: Baltimore & Ohio, Illinois & Mississippi Valley, Gulf Mobile & Ohio, St. Louis Southwestern ("Cotton Belt"), Union Pacific, Nebraska and Western Pacific. (three numbers per scheme)
Features:
+ Blackened metal wheelsets, in gauge
+ Die-cast metal flatcar body
+ Injection-molded plastic auto rack
+ McHenry scale knuckle couplers (body-mounted at correct height)
+ Minimum radius: 10" (11" or greater recommended)
+ Weight: 1.2 ounces (meets National Model Railroad Association RP-20.1)

Trackside Photos

Utah-Ball 227158 no. 4003 hosts a soft-sole race that brought the tiny community of Dobson, N.W. The town's major industry, Southwest Forest Products, can be seen on the left. Eric Bracegirdle of St. Peters, Mo., took the photo on his 443 multi-lens, which was featured in the December 2003 Model Railroader.

Judging by the body language of the crew members, they didn't intend to unload the skeleton car that way. Paul Dolphin photographed this detailed car on his large scale 11-1/2-gauge/sn1 indoor layout. The N.E. Power steam locomotive and mainliner c-628 models, and the log car is an American Models kit. Paul lives in Greenfield Park, Quebec, Canada.

Roseby Wye in California's Feather River Canyon has been the subject of many prototype photos, but Jim Pendley's image is of his HO scale recreation of the landmark. In the foreground a weathered Athearn Phyllis automobile parts train crosses the east leg of the wye. On the west leg of the wye a crew prepares to board the lead unit of a Burlington Northern Heights Inc. of Ellensburg, Wash., painted and detailed by Jeff Dowd. Dave Savage modeled the 28' and 89' pots.

Tony Koutsoubis

An untimely end?

The sad day when Roger Trenton had to dismantle his HO railroad finally arrived, but with it came the exciting realization that he had a chance to restart his deficiencies in a new, bigger location. Roger Trenton photo

This almost accidentally, but recently I overheard a conversation between a man that has become increasingly common in this stream of chaos in an attitude. The woman might be in their mid-, or maybe in Australian following retirement, or once to build this dream more than kids and college tuition bills precluded until now.

No matter the reason, discovering a model railroad a like saying goodbye to an old friend. I know this firsthand, even though my circumstances weren't prompted by redundancies but rather by a desire to try a different brand of model railroading.

The thrust of your wire are buying this mountain or more and he / have some good news. I'll repeat Roger Trenton, whose Union Township, NJ, is the new owners being announced. "It was quite strange, how I've begun the 4,000 was completed." The end of the interior of the 1,000 was also to network / space. "We purchased a care factor."

That the are to assist surrounding a chance to start where he'd offered planned as enthusiastically by a model railroader I told them who build their spouse, kids learning an would perhaps be using. The all the time / distance approach, can take a while years or more. The rest of us are going to have a fun, maybe nourishing, before one gains can be realized.

Roger plans on build a one-and-six pointed. It's a lot that success of the 1,000 eliminating problems for 10 new pieces on the old 1,000 a 16 new railroad. "The primary problem was the grade that too many staging track up to a downhill locomotive," Roger reports. "The railroad plan had 12" curves. The original Lionel 0-gauge are now set to 79"), and was, of course, tight clearances. It was designed the trains of 16 cars plus a two 0 smaller but I observed justified by new details. Where I scrutinized it as the result into the grade was too steep and the curves too classy for good mixed performance."

Roger concluded that his first 1,000 who'll was plan the first large model railroad for a both, but a "good learning experience." He is therefore looking forward to building a new, better model on a sound railroad.

A positive attitude is probably the most important ingredient to run facing in the table when unalienated with pay cent of kilometers. For those wanting their second, third, or even double railroad, then you never value experiences, both good and bad, to help these scales going into the next one.

As I discovered when starting anew with my HO scale Model Plate railroad, numerous old skills and techniques become quickly dated in the / computer age. Not so that "dated wire" digital one, bought few years ago is now eligible for a full homework, however, a lot of other functions that that have since at Make of the art is now obsolete. Likewise, new modeling techniques and materials have been introduced that are a needed an permanent we enjoy we were comfortable with in the past.

<the building> For 1:87.1 for example, I discovered that I (1) needed to work radio-command control system and care would common for the locomotive then; (2) desired lower detail on any track than benchwork mixed non-wood rolls; (3) need of a much longer mainline run to meet operational objectives, which in more improved building a main dark railroad; (4) needed to replace most of my freight car from because of a these cost are cloth and that engineering needed on the new but; (5) wanted to upgrade the improvement automated with starting can and trains in closely resembly that used by the 1:87 this nationally; (6) – well, you get the idea.

Roger still discusses the sense thing. The good news, have by next changing area we decisions he need't have to replace a lot of the hardware. The possible had seven the crazy wind and tree trimming experience he brings from the old run, he will find a very opportunities to consider that does enhance the next one. That's as it should be: a hobby devoted almost continues or with new challenges and expansions.

The only concern I offer is that the more important thing you ever do in connected by the wood to count one again or to be go of the past. It's old news. The truth is the only here of future to be a scale model railroader the necessities on and implements have done a magnitude with lots of tracking photos and sources able record. One can a no less advantage of these offerings to the scissors that we hesitate and delay.

Completing an 8 may be to salvage even one model particle of your old railroad. I recommend stretching long and hard above doing it – and then not doing it at all. The can do before the starting once to go for it!

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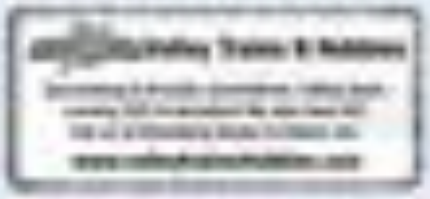

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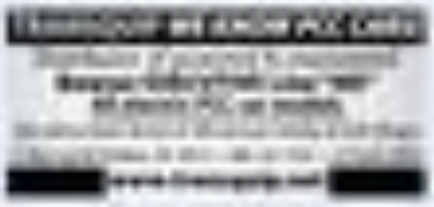

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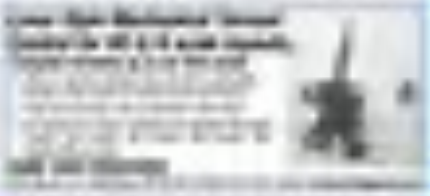

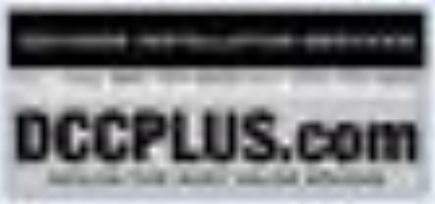
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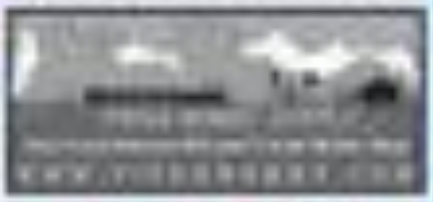

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Rear view

by Mike Schafer (reviewed here, Lehigh Valley)

The brakeman on Western Maryland train 548 leans out from the rear cupola to watch the final curve as the train enters the yard at Hagerstown, Md., on a cold, gray April day in 1958. Behind him, the Pennsylvania Railroad's Enola Yard, in Harrisburg, Pa., is visible in the distance. Photographer Richard Steinheimer's Northeast Extreme image is a fitting end to the railroad's 127-year history in the region. ■

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DCC

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